



Hipertensión y riesgo vascular

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SPECIAL ARTICLE

Obesity and hypertension in Latin America: Current perspectives

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Abstract In the countries of Central America, South America and the Caribbean, there has been a dramatic rise in obesity, the metabolic syndrome, hypertension and other cardiovascular risk factors in the last few decades. Epidemiological evidence highlights a consistent correlation between obesity and hypertension, and the presence of obesity predisposes an individual to a greater risk of hypertension although the mechanisms remain unclear. Obesity and hypertension are two key drivers of the cardio-renal disease continuum, and patients with uncontrolled cardiovascular risk in their mid-life will likely have an increased risk of clinical cardiovascular and renal outcomes in old age. This article summarizes the current status for the prevalence and consequences of obesity and hypertension in Latin America, with the aim of initiating a call to action to all stakeholders for greater implementation of primary prevention strategies, particularly in the young.

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PALABRAS CLAVE

Obesidad;
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Obesidad e hipertensión en Latinoamérica: Perspectivas actuales

Resumen En los países centroamericanos, sudamericanos y caribeños se ha producido un incremento alarmante en cuanto a obesidad, síndrome metabólico, hipertensión y otros factores de riesgo cardiovascular en las últimas décadas. La evidencia epidemiológica destaca una

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correlación consistente entre obesidad e hipertensión, y la presencia de obesidad predispone al individuo a un mayor riesgo de hipertensión, aunque los mecanismos siguen siendo inciertos. La obesidad y la hipertensión son claros impulsores esenciales de las cifras reales de las enfermedades cardio-renales, y los pacientes con riesgo cardiovascular descontrolado en la mediana edad tendrán, con toda probabilidad, un riesgo incrementado de resultados clínicos cardiovasculares y renales en la vejez. Este artículo resume el estatus actual de la prevalencia y consecuencias de la obesidad e hipertensión en Latinoamérica, con el objetivo de iniciar una llamada a la acción a todos los participantes, de cara a implementar unas mayores estrategias de prevención primaria, especialmente en los jóvenes.

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Prevalence of obesity in Latin America

By 2025, if current trends continue, global obesity prevalence as defined by body mass index (BMI) ≥ 30 kg/m² will reach 18% in men and exceed 21% in women, while severe obesity (BMI ≥ 35 kg/m²) will surpass 6% in men and 9% in women.¹ In Brazil, the prevalence of obesity is around 20% in men, and 20–30% in women.² An urban population-based study in Argentina, Chile and Uruguay ($n = 7524$) determined that the prevalence of obesity was 35.7%, and central obesity was 52.9%.³ These data generally reflect the trends in overweight and obesity for Latin America, as a whole.

Moreover, the NCD Risk Factor Collaboration, which recently evaluated trends in adult BMI in 200 countries from 1975 to 2014, showed that the prevalence of obesity and severe obesity had increased dramatically, by around tenfold, in Brazil and Mexico over the last four decades.¹ Consequently, Brazil and Mexico currently hold the dubious honor of ranking third and sixth, respectively, in the table of global prevalence of obesity among men, and fifth (Brazil) and sixth (Mexico) in terms of global prevalence of obesity among women.¹ The largest increase in mean BMI from 1975 to 2014 occurred in women from central Latin America (1.27 kg/m² per decade), while an increase in mean BMI of >1.0 kg/m² per decade, from 1975 to 2014, was found in women living in Andean Latin American and the Caribbean.¹ The increase in obesity prevalence has been significantly correlated with lower income in Latin America, underscoring the impact of socio-economic inequality on health in this region.⁴

Clustering of obesity and hypertension escalates cardiovascular risk

The presence of both obesity and hypertension in the same individual appears to be a particular 'characteristic' of Latin American hypertensive populations, which escalates cardiovascular risk.⁵ Epidemiological data generally show that obesity or overweight is highly prevalent among hypertensive populations,^{6–8} and that obesity may predispose individuals to hypertension and cardiovascular disease.^{9,10} Recent data from CARMELA, a study that evaluated cardiovascular risk factors in seven cities of seven Latin American countries, identified obesity as being the most influential and modifiable risk factor in this region; its data showed

that the prevalence of hypertension, type 2 diabetes and dyslipidemia was two to three times higher in obese subjects than in normal-weight people.¹¹ On average, 61% of the CARMELA population was either obese (23.86%) or overweight (38.02%), and obesity tended to increase with age. In Mexico City, using the conservative NCEP ATP III¹² cut-off values for abdominal obesity of ≥ 102 cm for men and ≥ 88 cm for women, up to 70% of women aged 55–64 years were found to have central obesity in CARMELA.

Furthermore, evidence suggests that the presence of the metabolic syndrome, a clustering of cardiometabolic risk factors including central obesity, amplifies the risk of hypertension-related target-organ damage such as microalbuminuria, left-ventricular hypertrophy and arterial stiffness in hypertensive patients, compared with hypertensive patients that do not have the metabolic syndrome.¹³ The question therefore arises as to whether the presence of the metabolic syndrome should be given greater consideration in hypertensive patients, particularly in the Latin American and Caribbean region, and whether these patients should be targeted more aggressively as a strategy for better control of total cardiovascular risk.

Central obesity, a greater predictor of cardiovascular risk than general obesity

Evidence indicates that central obesity, as measured by waist circumference, may be more closely related to the hypertension phenotype than general obesity, measured by BMI. In a cross-sectional study of more than 1200 individuals living in Goiânia, Brazil, waist circumference was found to be significantly associated with hypertension in both men and women. Although BMI ≥ 25 kg/m² (overweight) was also found to be a significant predictive cut-off point for hypertension in women, it was not a significant predictor in men.¹⁴

A much larger study ($N = 168,000$) of waist circumference, cardiovascular disease and type 2 diabetes conducted in 63 countries, including Argentina, Brazil, Chile, Colombia, Dominican Republic, Ecuador, Guatemala, Jamaica, Mexico, Peru, Trinidad and Tobago, and Venezuela ($n = 28,245$ for Latin America), showed a statistically significant, graded increase in the frequency of cardiovascular disease and type 2 diabetes for both BMI and waist circumference, but this relationship was stronger for waist circumference, across all regions and for both sexes.¹⁵ Interestingly, the

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