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## Optimum BMI cut points to screen asian americans for type 2 diabetes.

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#### Abstract

**OBJECTIVE:** Asian Americans manifest type 2 diabetes at low BMI levels but may not undergo diagnostic testing for diabetes if the currently recommended BMI screening cut point of  $\geq 25$  kg/m<sup>2</sup> is followed. We aimed to ascertain an appropriate lower BMI cut point among Asian-American adults without a prior diabetes diagnosis.

**RESEARCH DESIGN AND METHODS:** We consolidated data from 1,663 participants, ages  $\geq 45$  years, without a prior diabetes diagnosis, from population- and community-based studies, including the Mediators of Atherosclerosis in South Asians Living in America study, the North Kohala Study, the Seattle Japanese American Community Diabetes Study, and the University of California San Diego Filipino Health Study. Clinical measures included a 2-h 75-g oral glucose tolerance test, BMI, and glycosylated hemoglobin (HbA1c).

**RESULTS:** Mean age was 59.7 years, mean BMI was 25.4 kg/m<sup>2</sup>, 58% were women, and type 2 diabetes prevalence (American Diabetes Association 2010 criteria) was 16.9%. At BMI  $\geq 25$  kg/m<sup>2</sup>, sensitivity (63.7%), specificity (52.8%), and Youden index (0.16) values were low; limiting screening to BMI  $\geq 25$  kg/m<sup>2</sup> would miss 36% of Asian Americans with type 2 diabetes. For screening purposes, higher sensitivity is desirable to minimize missing cases, especially if the diagnostic test is relatively simple and inexpensive. At BMI  $\geq 23$  kg/m<sup>2</sup>, sensitivity (84.7%) was high in the total sample and by sex and Asian-American subgroup and would miss only ~15% of Asian Americans with diabetes.

**CONCLUSIONS:** The BMI cut point for identifying Asian Americans who should be screened for undiagnosed type 2 diabetes should be  $< 25$  kg/m<sup>2</sup>, and  $\geq 23$  kg/m<sup>2</sup> may be the most practical.

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