High rates of undiagnosed diabetes in an Asian population increase other health risks as well. Young people may be missed when it comes to diabetes screening, which could put them at increased risk for cardiovascular disease, according to a Korean study recently published in Diabetes and Metabolism.1

The study found that about 30% of Korean adults who have diabetes are undiagnosed, amounting to about 1 million people. Younger people were more likely to be undiagnosed and had increased cardiometabolic risk.

“These findings suggest that early and aggressive screening for diabetes followed by proper management of modifiable risk factors should be stressed in the public healthcare system to prevent future CVD events and deaths,” wrote first author Yong-ho Lee, MD, PhD, of the Yonsei University College of Medicine in Seoul, Korea, and colleagues at the University of Colorado in Denver, CO, and Harvard Medical School in Boston, MA.

Having diabetes at least doubles the risk of CVD.2 Yet a nationwide survey in Korea has suggested that over 30% of people with diabetes may not know they have the condition.3 Young people represent an often overlooked population when it comes to evaluating cardiometabolic risk associated with diabetes. Moreover, not much research has been done on these issues in Asian populations.

In the cross-sectional study, researchers looked at a nationally representative sample of 25,490 people aged ≥ 20 years (14,513 women, 10,977 men). Data came from the Korea National Health and Nutrition Examination Survey (KHNANES), which took place from 2008 to 2011. Of the total study population, 16,880 had normal glucose, 5771 had impaired fasting glucose, 713 had undiagnosed diabetes, and 2126 had diagnosed diabetes.

Researchers assessed LDL using the 2004 Adult Treatment Panel III guidelines, considered the standard of care in Korea. They used the Framingham model to predict risk of cardiovascular disease (CVD), and defined diabetes as use of insulin and/or antidiabetes medications, fasting plasma glucose ≥126 mg/dL, or HbA1c ≥6.5%. Hypertension was defined as systolic blood pressure ≥ 140 mmHg, diastolic blood pressure ≥90 mmHg, or current use of anti-hypertensive medication based on self-report. They defined obesity according to Asia-Pacific criteria (BMI ≥ 25 kg/m²).

Results showed:
• Significantly higher rates of undiagnosed diabetes in younger compared to older adults (P<0.001)
  ♦ <50 years: 49%
  ♦ ≥ 50 years: 23%
• The age groups that had the highest rates of undiagnosed diabetes were:
  ♦ Women: 20-29 years, 43% undiagnosed diabetes
  ♦ Men: 30-39 years, 69% undiagnosed diabetes

Having undiagnosed diabetes was linked to:
• Significantly higher 10-year Framingham CVD risk, compared to those with diagnosed diabetes
  ♦ <50 years: 11% vs 8% (P<0.001)
  ♦ ≥50 years: 33% vs 30% (P<0.001)
• Higher likelihood of uncontrolled hypertension (adjusted odds ratio [AOR] 1.56, P<0.001) and elevated LDL (AOR 4.35, P<0.001)
• Multiple CV risk factors like obesity, smoking, and hypertension

Compared to older people, younger individuals were less aware about having diabetes, hypertension, and abnormal LDL levels. Older individuals may tend to visit healthcare providers more often than younger people, the authors noted, which could explain some of these results. However, the cross-sectional design limited the study, they added, and did not allow for determination of causality about whether undiagnosed diabetes can directly increase the risk for CVD. Other limitations were inconsistent validation of the 10-year Framingham CVD score in Asian populations, and generalizability of the results to more heterogeneous populations. Nevertheless,
the results may point to an unmet need to target younger patients at risk for diabetes and CVD, especially in the Asian populations.

“This study highlights the importance of early identification of undiagnosed diabetes and risk-factor management in these patients,” the authors concluded, “In light of the global increase in obesity and diabetes, further studies are warranted to confirm the effect of undiagnosed diabetes on the development of CVD and to establish an effective strategy for identifying and treating individuals with undiagnosed diabetes.”

**Take-home Points**

- A nationwide study in Korea found significantly higher rates of undiagnosed diabetes in younger compared to older adults.
- Compared to diagnosed diabetes, undiagnosed diabetes was linked to multiple CV risk factors, significantly higher 10-year Framingham CVD risk, and higher likelihood of uncontrolled hypertension and elevated LDL.
- The findings support early and aggressive diabetes screening for diabetes and management of CV risk factors in younger patients at risk for diabetes and CVD, especially in the Asian populations.

**References:**


**Links:**


[2] [http://www.physicianspractice.com/authors/veronica-hackethal-md-0](http://www.physicianspractice.com/authors/veronica-hackethal-md-0)