The prediabetes epidemic among U.S. adults is well-documented, but little has been known about how rates of prediabetes have changed in America’s kids. A study of trends in this area sheds new light on the situation, and the news isn’t good. Rates of prediabetes in older youths haven’t just increased; they’ve more than doubled since the turn of the century.

For the study, published in *JAMA Pediatrics*, researchers looked at rates of prediabetes in about 6,600 youths 12–19 years old from 1999 to 2018. They analyzed data from 10 cycles of the National Health and Nutrition Examination Survey (NHANES), combining consecutive cycles to produce five four-year cohorts.

Prediabetes was defined as no recorded diagnosis of diabetes but a hemoglobin A1c level of 5.7% to 6.4% or a fasting plasma glucose level of 100 mg/dL to 125 mg/dL.

Its results show the overall rate grew nearly 2.5 times, from 11.6% in 1999–2002 to 28.2% in 2015–2018.

**No subgroup was immune**

The study does note several large differences within population subgroups. For instance, the prediabetes rate in females was 19.6% in 2015–2018, up from 7.1% in 1999–2002, whereas the rates among males were 36.4% and 15.8%, respectively.

But the highest rate was found in youths with marginal food security, at 45.5%, followed by those with obesity, at 40.4%.

Still, every subgroup saw substantial increases, including very low, low and full food security, as well as underweight or normal weight and overweight. Even those kids whose families had the highest ratio of income to poverty level, 3.0 or higher, saw their rate more than double, from 11.8% in the first cycle.
to 24.5% in the last.

Discover what doctors wish patients knew about a prediabetes diagnosis.

Policy needs to catch up

“The U.S. Preventive Services Task Force recently released a recommendation on screening for prediabetes and type 2 diabetes among adults, but no recommendation has been issued for youths to date,” wrote the authors, who include Junxiu Liu, PhD, assistant professor of population health science and policy in the Department of Population Health Science and Policy at the Icahn School of Medicine at Mount Sinai in New York City.

A previous study estimated that far fewer—one in five youths 12 to 19 years old—had prediabetes, they added.

“However, trends in the prevalence of prediabetes among youths and associated disparities by population subgroups over the past two decades have not been reported to our knowledge, and such information is important for future diabetes prevention,” the authors wrote.

The authors noted several limitations to the study. For starters, seasonal variations were not accounted for because there was only one measure of blood biomarkers for prediabetes. In addition, because some relevant information was not available in the NHANES cycles, the researchers did not use the oral glucose tolerance test to define prediabetes, so the results may have underestimated the prevalence of prediabetes. Third, because of the study’s small sample sizes, the statistical power might have been insufficient to detect interactions.

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