Medical Xpress

U-shaped correlation between body mass index, mortality

April 19 2017

(HealthDay)—The correlation between body mass index (BMI) and

mortality is U-shaped, with the optimal BMI for lowest mortality increasing with worsening diabetes status, according to a study published online April 11 in *Diabetes Care*.

Eun Young Lee, from The Catholic University of Korea in Seoul, and colleagues prospectively monitored 12,815,006 adults until 2013 to examine the correlation between BMI and mortality in individuals with normoglycemia, impaired fasting glucose (IFG), newly diagnosed diabetes, and prevalent diabetes.

The researchers found that 454,546 men and 239,877 women died during a mean follow-up period of 10.5 years. Regardless of diabetes status, sex, age, and smoking history, there were U-shaped associations. For the lowest mortality, the optimal BMI (kg/m^2) was 23.5 to 27.9 for normoglycemia, 25 to 27.9 for IFG, 25 to 29.4 for newly diagnosed diabetes, and 26.5 to 29.4 for prevalent diabetes. In younger ages, especially in women, higher optimal BMI by worsening diabetes status was more prominent. Especially at younger ages, the correlation between worsening diabetes status and higher mortality was stronger with lower BMI. Patients with prevalent diabetes had higher mortality than those with newly diagnosed diabetes given the same BMI; this was more prominent among women than men.

"U-curve relationships existed regardless of diabetes status," the authors write. "Optimal BMI for lowest mortality became gradually higher with worsening diabetes at each sex and age."

More information: Abstract/Full Text (subscription or payment may be required)