Nonobese People Account for 40% of Global NAFLD Population

A fifth of the worldwide population with fatty liver disease consists of lean people.

August 3, 2020 By Sukanya Charuchandra

A systematic review and meta-analysis of studies on non-alcoholic fatty liver disease (NAFLD) found that 40% of people with the condition were nonobese, and 20% were lean. These results were published in The Lancet Gastroenterology and Hepatology.

“Although the pathophysiology of nonobese NAFLD is still not clear, these findings suggest that metabolically unhealthy individuals are at increased risk of fatty liver disease compared with healthy individuals, irrespective of body mass index categories,” wrote researchers who were not involved with the original study in a commentary. “An immediate implication of these findings is the need for new criteria for diagnosis of fatty liver disease associated with metabolic dysfunction that take into consideration the importance of metabolic health.”

Arising from the accumulation of fat in the liver, NAFLD and its more severe form, non-alcoholic steatohepatitis (NASH), are responsible for a growing proportion of advanced liver disease worldwide. As a result of inflammation, NAFLD can lead to the buildup of scar tissue (fibrosis), cirrhosis (advanced scarring) and even liver cancer. With no effective approved medical therapies, disease management is dependent on lifestyle changes such as weight loss and exercise.

While NAFLD is most often linked to obesity, it is also observed in nonobese and lean individuals. Qing Ye, MD, of Stanford University Medical Center in California, and colleagues sought to establish the global prevalence and outcomes of nonobese and lean people with NAFLD.

The team combed through the databases PubMed (including MEDLINE), Embase, Scopus and the Cochrane Library through May 1, 2019. The team short-listed a total of 93 studies representing data from 24 nations. These studies included weight-stratified data on people with NAFLD.

They analyzed the prevalence of nonobese NAFLD cases in three different ways. First, they noted the prevalence of nonobese individuals within the NAFLD population. Second, they calculated the prevalence of nonobese people with NAFLD within the general population. Third, they calculated the occurrence of NAFLD among the nonobese population. They also analyzed the long-term outcomes of nonobese and lean people with NAFLD.

Of the short-listed studies, the authors used 84 studies for the prevalence (total existing cases) analysis, five studies for the incidence (new cases) analysis and eight studies for the analysis of long-term outcomes.

Analyzing the NAFLD population, the researchers found that 19% were lean and 41% were nonobese. While not obese, these people were as metabolically unhealthy as obese individuals with NAFLD.

Within the general population, the prevalence of nonobese NAFLD varied widely—from 25% in Malaysia to 50% in Austria. Across the various studies, about 5% of the general population had lean NAFLD, and 12% had nonobese NAFLD.

Some 20% of the nonobese population had NAFLD. Asian countries (38%) had a lower prevalence of nonobese NAFLD compared with European nations (50%).

Among the nonobese population, the incidence of NAFLD was 24.6 per 1,000 person-years, a measure of the number of such cases within a certain period of time. Moreover, of these lean or nonobese people with NAFLD, 39% had NASH, 29% had fibrosis and 3% had cirrhosis.

Within this group, mortality rates were high. The incidence of all-cause mortality was 12.1 per 1,000 person-years, liver-related mortality was 4.1 per 1,000 person-years, cardiovascular-related mortality was 4 per 1,000 person-years, new onset diabetes was 12.6 per 1,000 person-years, new onset cardiovascular disease was 18.7 per 1,000 person-years and new onset hypertension was 56.1 per 1,000 person-years.

In conclusion, some 40% of the worldwide population with NAFLD were considered to be nonobese, while one fifth were considered to be lean. Moreover, both groups showed significant signs of liver-related and other comorbidities. However, these findings were limited by the high variability seen across the numerous studies.

“These findings suggest that obesity should not be the sole criterion for NAFLD screening,” wrote the study authors. “Moreover, clinical trials of treatments for NAFLD should include participants across all body mass index ranges.”

Click here to read the study abstract in The Lancet Gastroenterology and Hepatology.

Click here to learn more about fatty liver disease.
