

Higher BMI increases risk of gallstones, especially in women

July 11 2013

New research reveals a causal association between elevated body mass index (BMI) and increased risk of gallstone disease. Results published in *Hepatology*, a journal of the American Association for the Study of Liver Diseases, show women are at greater risk of developing gallstones.

The National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) describe gallstones as pebble-like material, which can develop when there is excess cholesterol—accounting for 80% of all gallstones—bile salts or bilirubin in bile stored in the gallbladder.

Gallstone disease is one of the most common and costly [gastrointestinal diseases](#)—accounting for \$5.8 billion (Sandler et al., May 2002). Prior studies have shown that greater BMI is associated with increased risk of gallstone disease; however it is unclear if it is the cause of the disease.

To further understanding of the connection between BMI and gallstone risk, a team led by Dr. Anne Tybjærg-Hansen from Rigshospitalet, Copenhagen University Hospital in Denmark studied 77,679 participants from the general population, employing a Mendelian randomization approach—a method using [genetic variation](#) to study the impact of modifiable risk factors as the cause of a disease. There were 4,106 participants who developed symptomatic gallstone disease during the 34 years of follow-up.

Participants with gallstone disease were more likely to be older, female, and less physically active. Researchers found that those with gallstones often used [hormone replacement therapy](#) and drank less alcohol than

those without the disease. Analyses show that increased BMI was associated with gallstone disease risk with an overall hazard ratio (HR) of 2.84. When looking at BMI and gender, the team found that women had a higher risk of developing gallstone disease than men (HR=3.36 and 1.51, respectively).

Findings indicate that gallstone [disease risk](#) increased 7% for every 1 kg/M² increase in BMI. "Obesity is a known risk factor for gallstone disease and our study suggests that elevated BMI likely contributes to the development of this disease," concludes Dr. Tybjærg-Hansen. "These data confirm that obesity adversely affects health, and lifestyle interventions that promote weight loss in overweight and obese individuals are warranted."

More information: "Elevated Body Mass Index as a Causal Risk Factor For Symptomatic Gallstone Disease: A Mendelian Randomization Study." Stefan Stender, Borge G. Nordestgaard and Tybjærg-Hansen. *Hepatology*; ([DOI: 10.1002/hep.26563](https://doi.org/10.1002/hep.26563)); Published Online: June 14, 2013.

Provided by Wiley

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