

Overweight or obesity worsens liver-damaging effects of alcohol

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Researchers suggest future NHMRC alcohol guidelines need to place more emphasis on Australia's growing waistlines.

Led by the University of Sydney's Charles Perkins Center, the study looked at [medical data](#) from nearly half a million people and found having overweight or obesity considerably amplified the harmful effects of [alcohol](#) on [liver](#) disease and mortality.

"People in the overweight or obese range who drank were found to be at greater risk of liver diseases compared with participants within a healthy weight range who consumed alcohol at the same level," said senior author and research program director Professor Emmanuel Stamatakis from the Charles Perkins Center and the Faculty of Medicine and Health.

"Even for people who drank within alcohol guidelines, participants classified as obese were at over 50 percent greater risk of liver disease."

The researchers drew upon data from the UK Biobank—a large-scale biomedical cohort study containing in-depth biological, behavioral, and [health information](#) from participants in the United Kingdom (UK) – however they say the findings can safely be applied to the Australian population.

According to the researchers, this is one of the first and largest studies looking at increased adiposity (overweight or obesity) and level of alcohol consumption together, in relation to future liver disease.

Information was examined from 465,437 people aged 40 to 69 years, with medical and health details collected over an average of 10.5 years.

The findings were published in the *European Journal of Clinical Nutrition*.

Lead author Dr. Elif Inan-Eroglu, a postdoctoral research fellow with the Charles Perkins Center, said the results suggest people carrying excess

weight may need to be more aware of risks around alcohol consumption.

"With the most recent data suggesting two in three people—or 67 percent of the Australian population are in the overweight or obesity range, this is obviously a very topical issue."

Key findings

The researchers reviewed data on participants classified as overweight/obese based on their body mass index (BMI) and waist circumference, self-reported alcohol consumption according to UK alcohol guidelines, and liver disease incidence and liver disease as cause of death.

BMI is based on both weight and height. A BMI of over 25 denotes overweight, and over 30 denotes obesity. For [waist circumference](#), researchers used the World Health Organization (WHO) classification: normal (94 cm for men), and obese (>88 cm for women, >102 cm for men).

The level of risk was given a number called a 'hazard ratio.' The higher the number than 1, the higher the risk.

People who drank above UK alcohol guidelines had, compared to within guideline drinkers:

- A nearly 600 percent higher risk of being diagnosed with alcoholic fatty liver disease (5.83 hazard ratio).
- A nearly 700 percent higher risk of death caused by alcoholic fatty liver disease (6.94 hazard ratio).
- People with overweight or obesity who drank within or above alcohol guidelines had over 50 percent greater risk of developing liver disease compared to normal weight participants who

consumed alcohol at the same level.

Opportunity to improve NHMRC alcohol guidelines

The researchers say the findings of the study emphasize how alcohol drinking guidelines and doctor's advice may need to consider the year-on-year increasing trend of obesity and overweight prevalence in Australia and its compounding health impacts.

Current NHMRC (National Health and Medical Research Council) alcohol guidelines, last updated in 2020, state healthy adults should drink no more than 10 standard drinks a week, and no more than four on any one day.

The guidelines acknowledge that alcohol could worsen pre-existing health conditions, such as liver diseases, hepatitis B and C, and obesity. However, they do not acknowledge that more than one-third of Australians are affected by obesity; and do not specifically cover the combined harm of alcohol and lower levels of unhealthy adiposity (such as being overweight but not obese) on liver [disease](#).

Professor Stamatakis concluded: "The current alcohol guidelines are based on reviews of available evidence, but future updates must take into account overweight as a [liver disease](#) risk amplifying factor.

"Briefly mentioning obesity in the current guidelines may not be enough. Overweight and [obesity](#) affect over two-thirds of Australians, which raises the need to develop a specific alcohol drinking recommendation for this population majority group.

"Based on our study's findings, people who are in the overweight range, not only obese, should consume alcohol cautiously, and perhaps aim for an amount well below the generic NHMRC guidelines."

More information: Elif Inan-Eroglu et al, Joint associations of adiposity and alcohol consumption with liver disease-related morbidity and mortality risk: findings from the UK Biobank, *European Journal of Clinical Nutrition* (2021). [DOI: 10.1038/s41430-021-00923-4](https://doi.org/10.1038/s41430-021-00923-4)

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