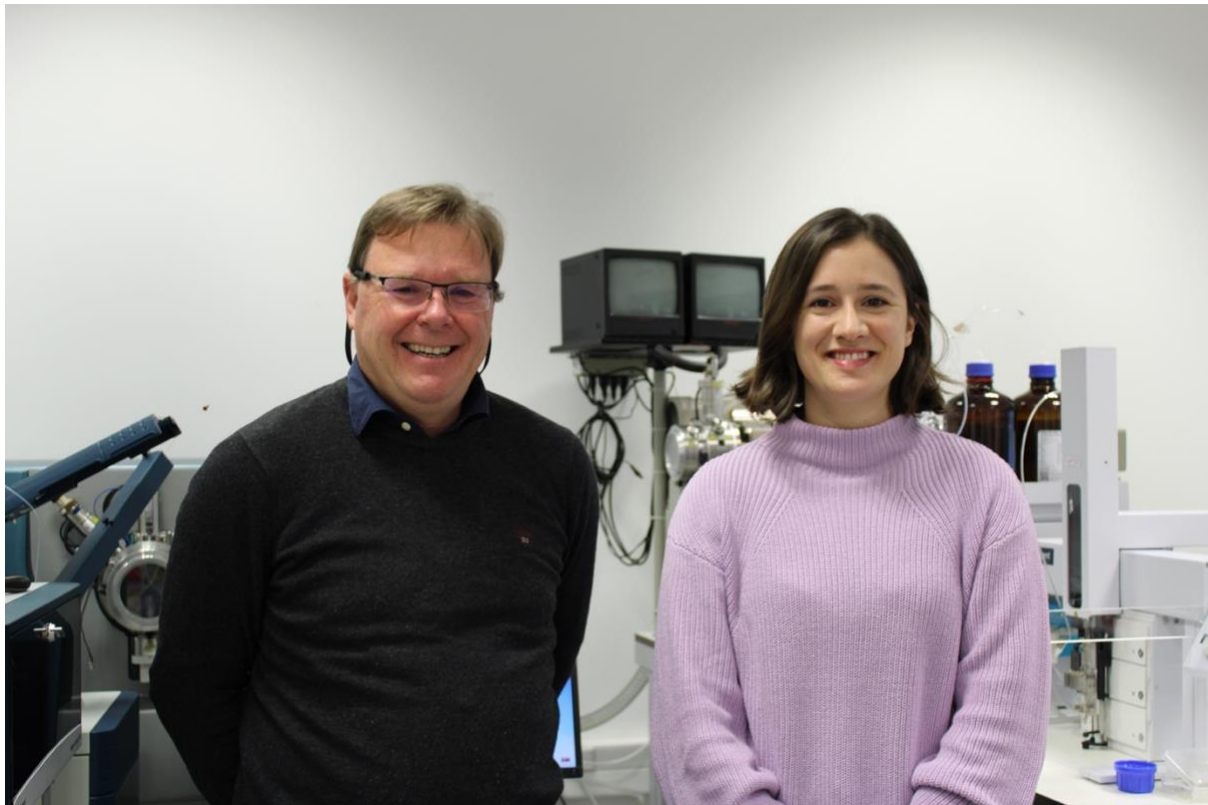


## Study finds that coffee consumption is associated with less severity of non-alcoholic fatty liver disease in people with type 2 diabetes



A study led by researchers from the Center for Neuroscience and Cell Biology of the University of Coimbra (CNC-UC) reveals that caffeine, polyphenols (substances with antioxidant function) and other natural products found in coffee can contribute to reducing the severity of non-alcoholic fatty liver disease (NAFLD) in overweight people with type 2 diabetes. The conclusion of this study paves the way for the use of coffee metabolites (such as theophylline) as non-invasive markers of the progression of NAFLD.

NAFLD is characterized by the accumulation of fat in the liver, which can lead to liver fibrosis, which in turn can progress to cirrhosis (scarring of the liver) and liver cancer. The pathology does not result from excessive alcohol consumption, but from an unhealthy

lifestyle, with little physical exercise and a high-calorie diet. It is also a frequent complication in patients with type 2 diabetes. Type 2 diabetes, the most common form of diabetes, is characterized by high levels of glucose in the blood, hyperglycemia, due to insufficient production of insulin (a hormone that controls the entry of glucose in the body's cells) or the body's inability to use it.

This study, published in the scientific journal *Nutrients* and led by John Griffith Jones, researcher at CNC-UC, involved volunteers recruited by the Associação Protetora dos Diabéticos de Portugal (APDP). The research team interviewed 156 middle-aged obese participants, of whom 98 had type 2 diabetes. In addition to the interview about coffee drinking habits, urine samples were also collected to analyze caffeine and other metabolites – the natural products that result from the breakdown of coffee in the body. This analysis provided more definite quantitative data on coffee intake, which is particularly important in explaining the relationship between coffee intake and NAFLD.

Margarida Coelho, CNC-UC researcher and one of the first authors of the study explains that **«participants who consumed more coffee revealed to have healthier livers. In turn, individuals with high levels of caffeine were less likely to have liver fibrosis, while higher levels of other coffee components were significantly associated with a lower fatty liver index, suggesting that for patients with type 2 diabetes overweight, higher coffee intake is associated with less severe NAFLD»**.

The researcher from the University of Coimbra also underlines that **«changes in current diet and lifestyle have contributed to the increase in obesity and non-alcoholic fatty liver disease in patients with type 2 diabetes. serious and irreversible, overloading health systems»**.

The study also had the collaboration of researchers from the NOVA Medical School (NMS) in Lisbon and with the support of the Institute of Scientific Information on Coffee (ISIC).

The scientific article “Increased Intake of Both Caffeine and Non-Caffeine Coffee Components Is Associated with Reduced NAFLD Severity in Subjects with Type 2 Diabetes” is available at <https://doi.org/10.3390/nu15010004>.

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