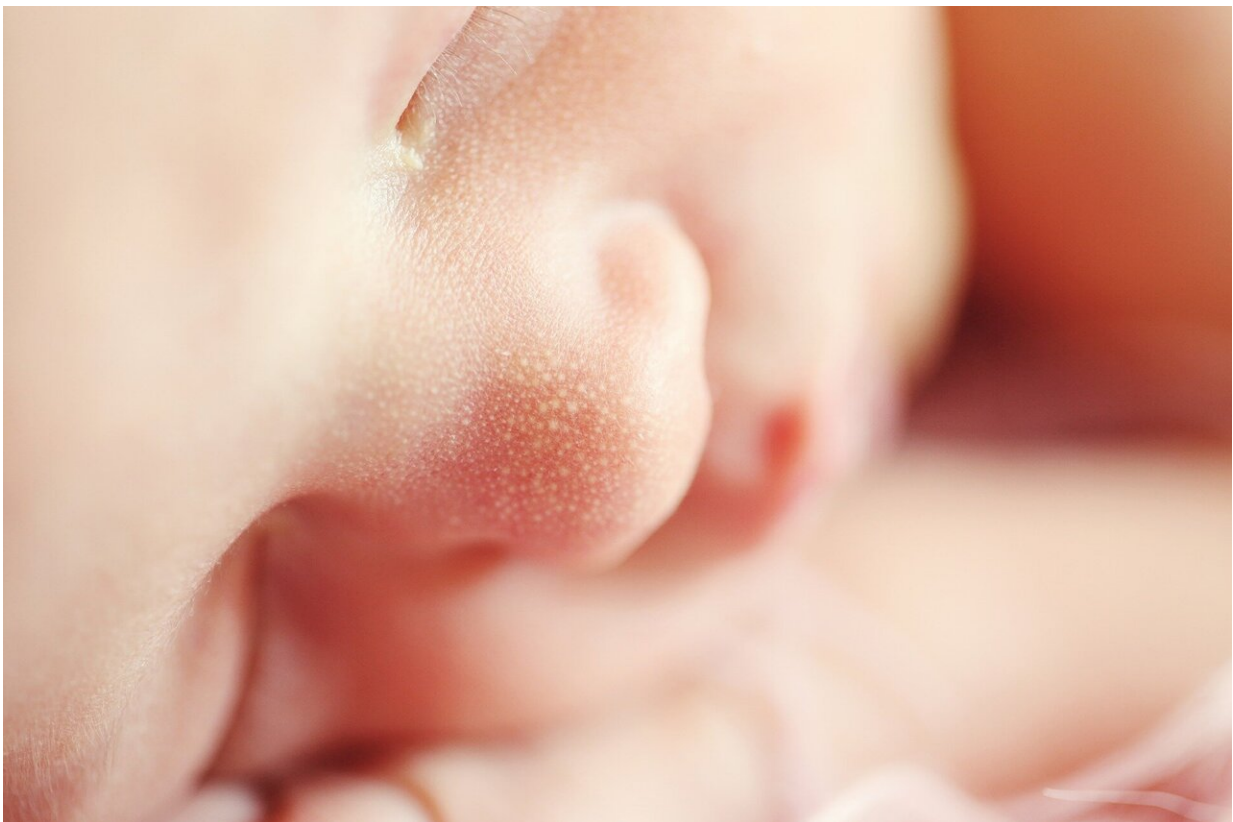


Babies with a low birthweight are four times more likely to develop fatty liver disease in later life, new study shows

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A new study, presented at [UEG Week 2023](#), has discovered a significant connection between birthweight and the onset of nonalcoholic fatty liver

disease, now known as metabolic dysfunction-associated steatotic liver disease (MASLD), in young people. Most notably, babies with a low birthweight were found to be four times more likely to develop MASLD in childhood, adolescence or young adulthood.

To investigate this link, a team of researchers from Sweden used the nationwide ESPRESSO cohort and conducted a population-based case-control study of all people aged 25 years and younger, who had been diagnosed with biopsy-proven MASLD between January 1992 and April 2017, totaling 165 cases. To minimize confounding factors, each individual with MASLD was matched with up to five controls from the [general population](#) based on age, sex, calendar year and county of residence.

Strikingly, individuals born with a [low birthweight](#) (less than 2,500 g/5 lbs 8 oz) were four times more likely to develop MASLD when compared with those born with normal birthweight. Those born as small for gestational age (SGA), falling below the 10th percentile, were also over three times more likely to develop MASLD early in life compared with those with an adequate (10th–90th) birthweight.

In addition, the researchers found that individuals with a low birthweight, or those born as SGA, had an up to ~6-fold higher relative risk of developing more severe stages of MASLD in the form of liver fibrosis or cirrhosis.

Dr. Fahim Ebrahimi, first author of the study, said, "While previous research has established the link between birthweight and major diseases, such as [cardiovascular disease](#) and metabolic syndrome, the connection to MASLD remained unclear. Our study now provides compelling evidence that fetal developmental factors play a significant role in the development of MASLD and progressive liver disease."

Amidst escalating rates of obesity, MASLD has become the most common cause of chronic liver disease worldwide. In Europe alone, it is estimated to affect over 25% of adults, and its prevalence is increasing among obese or overweight [young people](#). It has also emerged as one of the fastest growing causes of end-stage liver disease, primary liver cancer and liver transplantation. However, only few will experience progression of the disease.

Dr. Ebrahimi continues, "Further research is needed to fully understand the underlying immunological and metabolic mechanisms. Several studies suggest that both overnutrition and undernutrition during pregnancy can lead to lasting epigenetic changes that can affect an individual's metabolism for a lifetime."

"By linking several nationwide registers such as the Swedish Medical Birth Register, we were able to gather detailed data on maternal factors and perinatal characteristics and to adjust for multiple confounders," says Jonas F Ludvigsson, the study's supervisor and pediatrician at Örebro University Hospital and professor at the Department of Medical Epidemiology and Biostatistics at Karolinska Institutet.

"It is deeply concerning that individuals born with a low [birthweight](#) face a heightened relative risk of this disease at a young age, as early-onset MASLD often persists into adulthood and has been associated with an increased risk of developing cirrhosis and end-stage [liver](#) disease. Moving forward, it is important that we develop proactive and effective strategies, such as early and targeted screening, to identify at-risk individuals and help reduce the burden of this disease," adds Dr. Ebrahimi.

Provided by United European Gastroenterology

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