<https://www.nutritioninsight.com/news/coffee-uncovered-experts-identify-what-makes-the-bean-effective-against-fatty-liver-disease.html>

Notes on medical article:

They searched through medical articles from 1980 to 2016. Four cross-sectional and two case control studies with a total of 20,064 subjects were included in the meta-analysis.

total caffeine consumption (mg/day) was not significantly associated with either the prevalence [pooled mean difference (MD) 2.36; 95% confidence interval (CI) –35.92 to 40.64] ([Figure 2](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4699270/figure/fig2-1756283X15593700/)) or hepatic fibrosis (pooled MD −39.95; 95% CI −132.72 to 52.82) of NAFLD ([Figure 3](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4699270/figure/fig3-1756283X15593700/)). Further subgroup analyses stratified by study designs and locations were also not significant.

While this study did not find any significant association between total caffeine consumption and the prevalence or hepatic fibrosis of NAFLD, regular coffee caffeine intake was significantly associated with reduced hepatic fibrosis of NAFLD. Regular coffee consumption was defined as the ingestion of caffeine only from regular coffee, not including other caffeinated beverages such as espresso, tea, soda, etc. The beneficial effect of regular coffee on the liver to reduce liver enzymes (GGT, ALT) has recently been suggested by multiple studies [[Molloy et al. 2012](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4699270/#bibr21-1756283X15593700); [Birerdinc et al. 2012](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4699270/" \l "bibr4-1756283X15593700); [Cadden et al. 2007](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4699270/" \l "bibr6-1756283X15593700)]. As a complex mixture of over one hundred compounds, coffee is considered to be derived of three main compounds: caffeine, chlorogenic acids, and diterpenes (cafestol and kahweol) [[Gressner, 2009](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4699270/" \l "bibr11-1756283X15593700)]. While caffeine modifies signaling pathways leading to the decreased activity of connective tissue growth factor (CTGF), considered to be a major stimulator of hepatic fibrosis, many of the cytoprotective antioxidant effects of coffee are thought to be independent of the actual caffeine [[Kalthoff et al. 2010](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4699270/" \l "bibr15-1756283X15593700)]. The various forms of brewing coffee additionally complicate the ability to retain the antioxidant effect as the use of high pressured filtration versus ordinary filtration during preparation have been suggested to contain different levels of cafestol and kahweol [[Anty et al. 2012](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4699270/" \l "bibr1-1756283X15593700)]. While the exact mechanism of this effect or the amount of coffee required to provide significant benefit remains unclear, it is clear that the potential benefit of coffee needs to be further investigated.

Notes on nutrition site:

Scientists in Portugal have pinpointed flavonoids and alkaloids as essential compounds behind coffee’s effects against non-alcoholic fatty liver disease (NAFLD), including in those with Type 2 diabetes. Researchers from the University of Coimbra write that coffee is well-known for “modest but significant” protection against NAFLD.

Podcast:

Today I will be evaluating weather coffee consumption can prevent NAFLD (non-alcoholic fatty liver disease). I found this claim while doing research on NAFLD and was sent it via email. My father passed away in 2018 from this disease and I’m concerned I may develop it so learning about prevention is important to me. I did research on pubmed and found an article that was researching the connection between coffee and reduced inflammation with patients diagnosed with NAFLD. The article was a meta-analysis of six studies involving over 20,000 patients. Here is an excerpt from the article:

While this study did not find any significant association between total caffeine consumption and the prevalence or hepatic fibrosis of NAFLD, regular coffee caffeine intake was significantly associated with reduced hepatic fibrosis of NAFLD. Regular coffee consumption was defined as the ingestion of caffeine only from regular coffee, not including other caffeinated beverages such as espresso, tea, soda, etc. The beneficial effect of regular coffee on the liver to reduce liver enzymes (GGT, ALT) has recently been suggested by multiple studies [[Molloy et al. 2012](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4699270/#bibr21-1756283X15593700); [Birerdinc et al. 2012](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4699270/" \l "bibr4-1756283X15593700); [Cadden et al. 2007](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4699270/" \l "bibr6-1756283X15593700)]. As a complex mixture of over one hundred compounds, coffee is considered to be derived of three main compounds: caffeine, chlorogenic acids, and diterpenes (cafestol and kahweol) [[Gressner, 2009](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4699270/" \l "bibr11-1756283X15593700)]. While caffeine modifies signaling pathways leading to the decreased activity of connective tissue growth factor (CTGF), considered to be a major stimulator of hepatic fibrosis, many of the cytoprotective antioxidant effects of coffee are thought to be independent of the actual caffeine [[Kalthoff et al. 2010](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4699270/" \l "bibr15-1756283X15593700)]. The various forms of brewing coffee additionally complicate the ability to retain the antioxidant effect as the use of high pressured filtration versus ordinary filtration during preparation have been suggested to contain different levels of cafestol and kahweol [[Anty et al. 2012](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4699270/" \l "bibr1-1756283X15593700)]. While the exact mechanism of this effect or the amount of coffee required to provide significant benefit remains unclear, it is clear that the potential benefit of coffee needs to be further investigated.

So essentially, caffeine was ruled out as a primary compound. Only patients drinking coffee benefited from reduced symptoms and incidences. More research is needed as coffee contains over 100 different alkaloids and other compounds.

Using the Media misinformation source evaluation form helped me solidify the credibility of both the claim from nutrition insight and the pubmed article.

The first step is looking at the author and media producer. All the authors are researchers in their fields. They have been published in journals such as Therapeutic Advances in Gastroenterology.

The second step is looking at the publisher. The publisher is NIM pubmed, a government service to provide access to medical articles.

The third step is looking at Biasas.

No potential bias from author or publisher. Author may develop a theory based on similar recurrent results in research.

The fourth step is looking at the intended audience. Medical student, doctors and researchers.

The fifth step is to look at the content. All content has cited sources and data from scientific studies.

The final step is related to the currency of the source, or how recent it is. The pubmed article is from 2016 and uses studies that are from 1980 to 2016.

So to summarize, the pubmed article is highly creditable due to its content, publisher and authors.

I learned of one of the many positive effects of coffee consumption by doing this research. More research is needed to trace the specific protective actions coffee has on overall health and liver disease. This encourages me to be more proactive with my health and start a habit of skipping breakfast and drinking coffee instead. I’ve heard that fasting promotes good health and coffee does help with fasting by reducing hunger.