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Letter: gut microbiota modulation contributes to coffee's benefits for non-alcoholic fatty liver disease – authors' reply

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Sirs, We thank Dr Shen for the interest in our review and detailed work-up of its content.[1, 2] We appreciate the comments and want to address briefly the main hypothesis raised. Dr Shen argues that one of the potential mechanisms by which coffee consumption may reduce the risk of non-alcoholic fatty liver disease (NAFLD) is through beneficial modifications of the bacterial community resident in the lower gastrointestinal tract.

We entirely agree with Dr Shen's intriguing hypothesis, which is further supported by the findings of Gniechwitz *et al.*,[3] who demonstrated that arabinogalactans and galactomannans from coffee beverages determined an increase of about 60% of species belonging to the *Bacteroides* group. Recently, a shift in distal gut microbiota towards a lower percentage of *Bacteroides* in NAFLD patients has been observed, with a decrease in the relative abundance of *Bacteroides* as the severity of NAFLD increased.[4] The question remains as to whether changes in the intestinal microbial community are one of the environmental causes of NAFLD or if they are a consequence of fatty liver infiltration, specifically of the unbalanced diet that often accompanies the development of hepatic steatosis.

In the future, larger studies on the potential role of gut microbiota in human NAFLD should take all of the possible confounding variables into account, including coffee intake. If an enterotype is ultimately shown to be causally related to NAFLD, then targeted dietary interventions (including increased coffee consumption) may allow the modulation of individuals' enterotypes to improve their liver health.[5]

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