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Enterotypes influence temporal changes in gut microbiota

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The human gut microbiota plays an important role for human health. The question is whether we can modulate the gut microbiota by changing diet. During a 6-month, randomised, controlled dietary intervention, the effect of consuming a diet following the New Nordic Diet recommendations (NND) as opposed to Average Danish Diet (ADD) on the gut microbiota in humans (n=62) was investigated. Quantitative PCR analysis showed that the microbiota did not change significantly by the intervention. Nevertheless, by stratifying subjects into two enterotypes, distinguished by the *Prevotella/Bacteroides* ratio (*P/B*), we were able to detect significant changes in the gut microbiota composition resulting from the interventions. Subjects with a high-*P/B* experienced more pronounced changes in the gut microbiota composition than subjects with a low-*P/B*. The study is the first to indicate that enterotypes influence microbiota response to a dietary intervention. The distinguishment of enterotypes by *P/B* could be a simple approach to assess the effect of diets and other treatments on the gut microbiota.