

Supplementary file

(1) Outcome measure

Clinical characteristics: IBD subtype, disease activity computed by using the CDAI score for Crohn's disease and the MTWAI score for UC (maximal activity index, last activity index), C-reactive protein, at least one of the following complications during follow-up (colorectal cancer, colonic dysplasia, intestinal lymphoma, osteopenia, anemia, deep venous thrombosis, pulmonary embolism, gallstones, nephrolithiasis, malabsorption syndrome, massive hemorrhage, perforation/peritonitis, growth failure, at least once throughout the follow-up: fistula, abscess or anal fissure, stenosis, intestinal surgery, surgery for fistula, extra-intestinal manifestations (peripheral arthritis, uveitis/iritis, pyoderma gangrenosum, erythema nodosum, aphthous oral ulcers, stomatitis, ankylosing spondylitis, primary sclerosing cholangitis), current smoking status, at least taken once one of the following medications (steroids, immuno-modulators, tumor necrosis factor antagonists), supplementation therapy, alternative medicine

Demographics at baseline: age at diagnosis, gender, weight, level of education (categorical), level of sport activity (categorical) and full-time activity.

Psychological distress was measured with the Hospital Anxiety and Depression Scale (HADS-A, resp. HADS-D)²⁶, the Short Form 36 Health Survey (SF-36)²⁷ and the Post-traumatic Stress Diagnostic Scale (PDS). The scores are all validated psychometric instruments and have previously been shown to be predictive of poor disease course^{28, 29}.

The higher the scores on the HADS-A and HADS-D, the greater anxiety or depression symptoms, respectively. The SF-36 questionnaire consists of eight dimensions (vitality, physical functioning, physical role functioning, bodily pain, mental health, general health perceptions, emotional role functioning, social role functioning), whereby in each dimension 100 points can be achieved. We focused on Physical and Mental Component Summaries that

are computed by a linear combination of the previously mentioned eight dimensions. A higher score indicates a better health status. The PDS provides a measure of post-traumatic stress disorder, in which higher scores indicates a higher level of post-traumatic stress.

(2) Vegetarian Diet in the SIBDCS

Compared to the regular diet patients (RDP) the VD-patients (VDP) there were significantly more women (73% vs. 52%) than men (27% vs. 48%) ($p=0.002$) and patients with a lower body weight (median 71kg (IQR 61-82kg) vs. 63kg (IQR 55.5-72), $p<0.001$). In addition, vegetarians used more often alternative medicine (50% vs. 27%, $p<0.001$) and supplementation therapy with calcium and iron (44% vs. 26, $p=0.004$, resp. 23% vs. 10%, $p<0.001$; Table 1A).

In addition, we performed an ordinal logistical regression taking the amount of meat consumption into consideration (from no meat = 0 to meat consumption every day =5; Table 1 B).

(3) Gluten-free Diet in the SIBDCS

(Regarding GFDP versus RDP, GFDP were significantly more often taking a supplementation therapy (79% vs. 64%, $p=0.018$), such as Vitamin D (39% vs. 26%, $p=0.038$), probiotics (19% vs. 6%, $p<0.001$) and fish oil (18% vs. 6%, $p<0.001$) as well as alternative medicine (60% vs. 26%, $p<0.001$; Table 2)

(4) Mucosa-associated microbiota composition in VDP and GFDP versus RDP

When data analyzed using multivariate association with linear modeling at genus level, we identified *Sutterella*, *Veillonella*, *Lachnobacterium*, *Dialister*, *Staphylococcus*, *Bilophila*, *Bacteroides* and *unassigned genus* from Rikenellaceae in CD and *unassigned genus* from

Clostridiaceae, *unassigned genus* from *Ruminococcaceae*, *Veillonella* and *Akkermansia* in UC that were positively correlated with meat consumers while *unassigned genus* from *Ruminococcaceae*, *unclassified genus* from Gemellaceae, *unassigned genus* from Barnesiellaceae, and *Clostridium* in CD and *Eggerthella*, *Prevotella*, *Lachnobacterium*, and *Phascolarctobacterium* in UC were negatively correlated with meat consumers when compared to vegetarians ($p < 0.05$). However, after BH corrections the data did not reach statistical significance, likely because of fewer vegetarian cases in the cohort.