

Summer Meeting hosted by the Irish Section, 16–19 July 2012, Translational nutrition: integrating research, practice and policy

Typology of Irritable bowel syndrome (IBS), dietary triggers and food and nutrient intake: a cross-sectional study

Y. Lenighan¹, A. McLoone¹, B. M. Corfe¹, J.M. Russell² and M. E. Barker

¹Molecular Gastroenterology Research Group, Academic Unit of Surgical Oncology, Department of Oncology, School of Medicine and Biomedical Sciences, The University of Sheffield, Sheffield, S10 2RX and

²Corporate Information and Computing Services, The University of Sheffield, Sheffield, S10 2RX, UK

Fibre-rich foods particularly wheat and grains are recognised as foods which aggravate symptoms of IBS.⁽¹⁾ These and other dietary triggers may be excluded or reduced in the diet, with possible implications for nutrient intake. Typology of IBS, namely diarrhoea (D), constipation (C) or alternating diarrhoea and constipation (A), is also known to be associated with avoidance of particular foods, but there has been little systematic study. This study examined food and nutrient intake of IBS sufferers in relation to their self-reported dietary triggers and IBS typology.

We studied 102 IBS sufferers, as defined by ROME II criteria. All subjects recorded a 4-day estimated food diary, including one weekend day, for estimation of nutrient intake. All subjects completed a questionnaire, which gathered information on gender, height, weight, age, IBS typology (Type D, C and A), duration of syndrome, foods which triggered symptoms and current severity of symptoms.⁽²⁾ Subjects' reports of dietary triggers were first coded, and then subjected to cluster analysis. Food and nutrient intake of dietary trigger groups were compared with that of the rest of the sample, controlling for age and gender.

Subjects had a mean age of 33.3 (sd 13.90) years. There were 42, 23, and 39 subjects, respectively in Type A, D and C IBS subtypes. We identified 5 dietary trigger clusters of which 3 were interpretable. The latter were gluten-avoiders, vegetable-avoiders and sugar/caffeine/gluten/dairy-avoiders. The cluster of gluten-avoiders was particularly associated with Type C IBS (Chi-Squared = 35.883, $p = 0.002$).

Further detailed analysis examined dietary triggers in relation to nutrient intake. Those subjects report wheat and grains as triggers had greater energy ($p = 0.006$), protein ($p = 0.03$), fat ($p = 0.02$), carbohydrates ($p = 0.037$) and fibre ($p = 0.048$) intake. The alcohol trigger group consumed less alcoholic drinks ($p = 0.015$) and had lesser energy ($p = 0.026$) protein ($p = 0.012$), carbohydrate ($p = 0.043$) and sugars ($p = 0.014$) intake. The fibre trigger group consumed less rice/pasta/other cereals ($p = 0.068$) and less energy ($p = 0.076$), fat ($p = 0.037$), starch ($p = 0.071$) and total fibre ($p = 0.043$). The starchy foods trigger group consumed less bread ($p = 0.046$), more fruit/fruit juices ($p = 0.054$) and less sugar ($p = 0.080$). Beans and pulses trigger group had greater intake of other vegetables ($p = 0.026$) and a lower intake of fibre ($p = 0.078$).

The avoidance of gluten containing food was associated with constipation predominant IBS. Specific dietary triggers were associated with altered food and nutrient intake. Further analysis of patterns within reported dietary triggers may be elucidating.

1. Verdu EF *Am J Gastroenterol* **106**, 516–8.

2. Williams EA, Nai X & Corfe BM *BMC Gastroenterol* **11**, 9.