Rethinking Low Fiber Diets for Active Inflammatory Bowel Disease

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INTRODUCTION

Fiber plays an important role in maintaining gut health. Animal data suggests that fiber may reduce disease activity in inflammatory bowel disease (IBD). However, patients with IBD are commonly recommended low fiber diets during active flare symptoms or with fibrostenotic Crohn's disease. We hypothesized that many patients, especially those with active disease, can actually tolerate more fiber in the diet.

AIMS

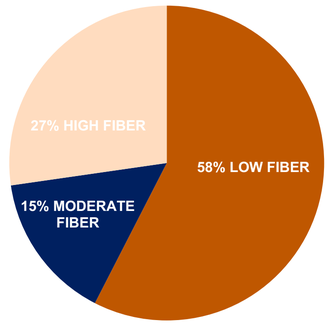
To evaluate whether patients with IBD, especially those with active disease, can tolerate a high-fiber diet.

METHODS

- Prospective cross-sectional survey of eating habits and preferences was performed in a cohort of IBD patients seen in one of two academic gastroenterology practices in Austin, TX (UT Dell Medical School) or New Haven, CT (Yale University).
- The 5-item Dietary Fiber Intake Short Food Frequency Questionnaire was used to estimate fiber consumption.
- Disease activity was assessed using the Harvey Bradshaw Index (HBI) for Crohn's and Simple Clinical Colitis Activity Index (SCCAI) for UC.
- Primary outcome was average daily dietary fiber intake compared between patients with and without active disease and secondary outcome was average daily dietary fiber intake compared between patients with and without stricturing disease and between patients with Crohn's vs UC

RESULTS

Figure 1: Average daily fiber intake of entire IBD cohort



Fiber Intake Definitions	Men	Women
Low	< 22 g / day	< 18 g / day
Moderate	22 – 29 g / day	18 – 24.9 g / day
High	≥ 30 g / day	≥ 25 g / day

Table 1: Comparison of IBD patients following low-fiber diet versus those following moderate-high fiber diets

	Low fiber n=38	Mod/high fiber n=28	p-value
Age	35.3 ± 13.1	39.7 ± 14.0	.14
Sex (% men)	21 (55.3%)	7 (25%)	**.02**
Race			
Black	1 (2.6%)	0 (0%)	.29
White	28 (73.7%)	17 (60.7%)	
Asian	1 (2.6%)	0 (0%)	
Unknown	8 (21.1%)	11 (39.3%)	
Ethnicity			
Latino	1 (2.6%)	2 (7.1%)	.12
Non-Latino	29 (76.3%)	16 (57.1%)	
Unknown	8 (21.1%)	10 (35.7%)	
BMI (kg/cm²)	24.8 ± 6.2	25.8 ± 7.4	.73
Type of IBD			
Crohns	23 (60.5%)	20 (71.4%)	.19
UC	15 (39.5%)	6 (21.4%)	
IBDU	0 (0%)	2 (7.1%)	
Age at diagnosis	24.7 ± 12.8	30.4 ± 13.2	.053
Crohns Location			
Ileal	7 (30.3%)	3 (15%)	.43
Colonic	4 (17.4%)	3 (15%)	
Ileocolonic	12 (31.6%)	14 (70%)	
Crohn's Disease Behavior			
Stricturing disease	9 (39.1%)	3 (15%)	.06
Penetrating	5 (21.7%)	2 (10%)	
Inflammatory	9 (39.1%)	15 (75%)	
UGI Crohn's	0 (0%)	3 (15%)	.07
Perianal Crohn's	8 (34.8%)	3 (15%)	.33
UC extent			
Extensive	6 (40%)	3 (50%)	.20
Left-sided	9 (60%)	2 (33.3%)	
Proctitis	0 (0%)	1 (16.7%)	
Prior IBD-related surgery	5 (13.2%)	2 (7.1%)	.69
B12 deficiency	6 (15.8%)	3 (5%)	.72
Vit D deficiency	15 (39.5%)	11 (39.3%)	1.0
Osteoporosis/osteopenia	8 (21.1%)	2 (7.1%)	.17
Biologic Use (current)	29 (76.3%)	20 (71.4%)	.78

Figure 2: Comparison of average daily fiber intake of IBD patients in remission vs. active disease

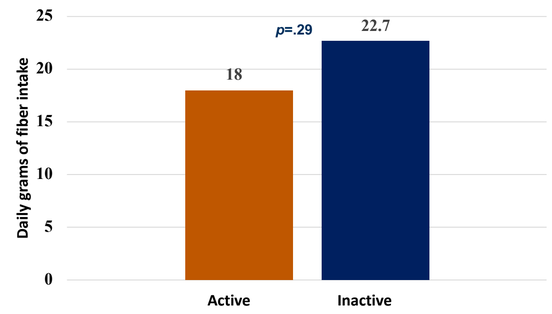


Figure 3: Comparison of daily fiber intake of IBD patients in remission vs. active disease by low vs moderate vs high fiber intake

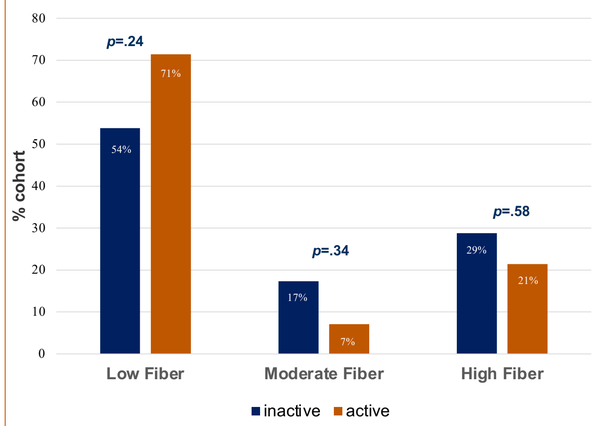
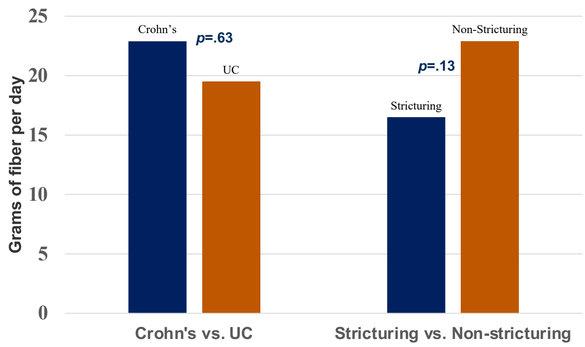


Figure 4: Comparison of average daily fiber intake in patients with Crohn's disease versus those with Ulcerative Colitis/ IBDU and in patients with and without stricturing disease



CONCLUSIONS

- In both the active disease and inactive disease groups, over half of IBD patients were following a low-fiber diet.
- The average daily fiber intake of patients with active IBD was similar to that of patients in remission.
- Patients with active IBD were following high fiber diets at similar rates to those with no active disease.
- Patients with CD and UC were eating similar amounts of fiber in the diet.
- Patients with stricturing disease were on average eating less fiber, but this did not reach statistical significance.

SPECULATIONS

- Patients with IBD, whether in flare-ups or in remission, are predominantly following low-fiber diets. This is not dissimilar to the typical dietary fiber intake in the average US adult, which the USDA reports as 16 grams/day.
- Interestingly, patients with active and inactive disease tolerate high-fiber diets at similar rates. This data suggests that both groups may actually safely tolerate an increase in fiber intake.
- Further studies are needed to identify whether patients restrict fiber due to lack of education or due to provider recommendations rather than due to intolerance to fiber. We suspect that providers should be more selective in counselling patients on low fiber diets and should carefully encourage fiber intake in more patients.