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## Bran and irritable bowel syndrome: time for reappraisal

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### Summary

Whilst following up large numbers of patients with irritable bowel syndrome we got the impression that wholemeal wheat and bran products made people with the condition worse rather than better. One hundred consecutive new referrals, all of whom had tried bran, were questioned to resolve this issue.

55% of patients were made worse by bran whereas only 10% had found it helpful. With the exception of fruit, other forms of dietary fibre were not as detrimental and proprietary supplements were found to be beneficial. All symptoms of irritable bowel syndrome were exacerbated by bran, with bowel disturbance most often adversely affected, followed by abdominal distension and pain.

The results of this study suggest that the use of bran in irritable bowel syndrome should be reconsidered. The study also raises the possibility that excessive consumption of bran in the community may actually be creating patients with irritable bowel syndrome by exacerbating mild, non-complaining cases.

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See Commentary page 3

### Introduction

Over the last 20 years it has become routine practice for bran or a high-fibre diet to be advocated for irritable bowel syndrome (IBS).<sup>3</sup> This recommendation is based on the hypothesis that IBS is caused by fibre depletion,<sup>4</sup> minimal evidence that bran has therapeutic value in IBS,<sup>5</sup> and the erroneous assumption that fibre is an inert substance that does not physically or metabolically vary depending on its source.<sup>6,7</sup>

Our impression was that bran, even in small amounts, makes IBS worse and that patients are often more aware of this than their doctors. In this study we assessed patients' perception of the effect of fibre, in particular bran, on their symptoms of IBS.

### Methods

100 consecutive outpatients fulfilling the Rome criteria<sup>8</sup> for IBS were studied with a questionnaire; tertiary referrals were excluded. Patients were interviewed by CYF to assess severity of disease and the response of their various symptoms to fibre in the form of bran (wholemeal wheat and bran products), other cereals, vegetables, fruit, pulses, and proprietary fibre supplements. The effect of fibre was graded on a scale of better, worse, and unchanged. Improvement and deterioration were further subdivided into 3 categories of change (mild, moderate, substantial) with those showing only mild change being classified as unchanged to avoid overinterpretation. Special attention was paid to the nature of bowel disturbance (satisfaction with defaecation and straining at stool, as well as numerical value) in order to examine whether a particular type of symptom was more or less affected by fibre.

### Results

55% of patients reported that bran made their symptoms worse, with 10% noting improvement (table). The exacerbation by bran did not just occur at the start of treatment but was also observed long term. Fibre sources other than bran tended to have a more neutral effect with the exception of fruit. Citrus fruits, especially oranges, were the worst offenders but they are not generally regarded as a specific treatment for IBS and patients did not perceive this as a problem.

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Fibre source	Better	Worse	Unchanged
Bran	10 (10%)	55 (55%)	35 (33%)
Cornflakes	0	0	88 (100%)
Rice Crispies	0	0	81 (100%)
Porridge	0	9 (12%)	66 (88%)
Muesli	0	21 (27%)	58 (73%)
Vegetables	3 (3%)	24 (25%)	71 (72%)
Fruit	5 (5%)	42 (45%)	47 (50%)
Pulses	0	22 (25%)	65 (75%)
Nuts	0	23 (27%)	61 (73%)
Proprietary fibre	27 (39%)	15 (22%)	27 (39%)

Table: Symptomatic response to fibre

Of those reporting deterioration with bran, 67% rated this as substantial and 33% as moderate. Conversely, with vegetable fibre the majority reported moderate deterioration (75% vs 25%). Where other forms of fibre led to deterioration, the distribution between moderate and substantial was about even. There was no correlation between the response of symptoms to fibre and the type of bowel habit. The symptoms most likely to deteriorate with bran were bowel disturbance (75%), distension (50%), and pain (41%). In contrast, proprietary fibre products such as isphaghula showed some benefit (table).

## Discussion

This study shows that the treatment most commonly recommended for IBS can make the condition worse. This occurs despite the strong placebo effect that might be expected from something so widely advocated as being beneficial by lay publications and the medical profession.

Our results suggest that patients would be best advised to judge for themselves whether bran is useful and, if not, to consider reducing its intake. These findings may prevent patients being told they need more bran when they have failed to respond to this measure and also serve to reassure those who do deteriorate as a consequence of taking bran, since they often start to question the diagnosis of IBS when they fail to respond to what is considered standard treatment. Our findings also raise the possibility that non-complaining subjects in the community who have only mild symptoms become patients as a result of taking bran because they have been led to believe that it should be good for them.

Hunter's group<sup>9</sup> have been advocating the concept of food intolerance in IBS for some years and have recommended the use of exclusion diets to identify incriminating foods such as wheat. This clue to the fact that bran might be harmful has been ignored, probably for two reasons: first, wheat was only one of a variety of foods identified as being potentially harmful; second, this work was done in the setting of looking at symptom improvement on exclusion of foods rather than examining the deleterious effect of a dietary supplement designed to be beneficial.

The importance of an adequate intake of fibre in the diet in both health and disease cannot be disputed.<sup>6,7</sup> However, as with other dietary constituents, it should not come as a surprise if excessive supplements may in some instances be detrimental. Undoubtedly fibre is useful in constipation but perhaps more attention should be paid to its nature and source, particularly when advising patients with gastrointestinal disorders. In patients with the constipated variant of IBS requiring measures to improve their bowel habit, proprietary bulking agents may be the best option as the results of this study suggest the routine use of bran in IBS cannot continue to be recommended.

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