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Anti-Inflammatory Diet for Inflammatory Bowel Disease (IBD-AID)

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Anti-Inflammatory Diet for Inflammatory Bowel Disease (IBD-AID)

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Keywords
Inflammatory Bowel Disease (IBD), diet, nutrition, anti-inflammatory, IBD-AID, Crohn's disease (CD), ulcerative colitis (UC), prebiotic, probiotic

Comments
Poster presented on Senior Scholars Presentation Day at the University of Massachusetts Medical School, Worcester, MA, on April 29, 2015. Medical student Anne Barnard participated in this study as part of the Senior Scholars research program at the University of Massachusetts Medical School.

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## BACKGROUND

- Inflammatory Bowel Disease (IBD), including Crohn’s disease (CD) and ulcerative colitis (UC): Chronic, immune-mediated inflammatory conditions of the GI tract
- Increasingly linked to dysbiosis, an imbalance in the gut microbiome

## MATERIALS AND METHODS

- **Participants’ self-assessments of difficulty in maintaining the diet**
- **Dietary compliance**
- **Participant retention**

## RESULTS

- A total of 15 enrolled patients with confirmed diagnosis of Crohn’s Disease, 5 in observation arm, 10 in intervention arm.
- Average Age: 51 years
- Harvey Bradshaw index (HBI) scores dropped an average of 2.2 and 1.3 points for the Intervention group and Control group, respectively.

### Table 1: Dietary Components Analysis - Significant increases in probiotic and favorable dietary components, and decrease in adverse foods for the group as a whole (paired t-test values 0.0016, 0.0344, 0.0085, and 0.0014, respectively).

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>Follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Probiotics</td>
<td>25%</td>
<td>29%</td>
</tr>
<tr>
<td>Prebiotics</td>
<td>10%</td>
<td>15%</td>
</tr>
<tr>
<td>Fiber foods</td>
<td>6%</td>
<td>9%</td>
</tr>
<tr>
<td>Advance foods</td>
<td>22%</td>
<td>19%</td>
</tr>
<tr>
<td>Total</td>
<td>43%</td>
<td>38%</td>
</tr>
</tbody>
</table>

### Table 2: CRP, ESR, Hematocrit, and HBI Score

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Baseline</th>
<th>Follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRP (mg/dL)</td>
<td>60</td>
<td>40</td>
</tr>
<tr>
<td>ESR (mm/h)</td>
<td>30</td>
<td>20</td>
</tr>
<tr>
<td>Hematocrit</td>
<td>35</td>
<td>30</td>
</tr>
<tr>
<td>HBI Score</td>
<td>10</td>
<td>5</td>
</tr>
</tbody>
</table>

## DISCUSSION

- Eliminating problem foods from the diet is often manageable for patients, but adding unfamiliar foods (particularly probiotics, such as plain yogurt, kimchi, miso, sauerkraut, etc.), is a huge barrier to maintaining compliance.
- May be a partial reflection of the Western food and dieting culture
- Despite lack of statistical significance, the two patients who exhibited normalization lab values, in combination with their improved HBI scores, suggest the possibility of a real and meaningful benefit from IBD-AID for those able to comply with the dietary and lifestyle changes.
- Feasibility: The considerable loss to follow-up in this study may reflect a variety of issues:
  - The diet itself, which should be re-examined to simplify or reframe
  - The medical and psychosocial complexity of IBD patients
  - These limitations highlight the need for additional support and close follow-up when it comes to facilitating lifestyle change in this population.

## CONCLUSION

Overall, this small study highlights the need for larger-scale clinical trials in order to draft nutritional guidelines for IBD patients and further legitimize the utility of preventive clinical nutrition in Western medicine.

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**Vignette 1: A "Not-So-Successful Story"**

“Tom,” a 38-year-old man with a history of TBI and IBS and psychiatric depression, currently on five psychoactive medications. He is unable to get out of the house to shop for food, therefore cannot cook. Another patient in the study expresses willingness to help by providing him with meals, but Tom declines, as he is uncomfortable having anyone come to his home. He does not want to attend any group classes and is increasingly unresponsive to phone calls and texts. Tom is ultimately lost to follow-up, stating he cannot get out of the house and does not want anyone coming to see him. He continues to attend usual care visits with his primary physician.

**Vignette 2: A “Success Story”**

“Sara” (Patient 1, above) is a graduate student with a history of Crohn’s disease complicated by strictures, stenosis, and medication failures. She lives with her partner, who suffers from IBS. She started the study while in a fair, with an HBI score of 11, corresponding with moderate disease. She described her health as “Poor.” She and her partner do not cook regularly, and their diet consists mostly of simple starchy carbohydrates and sugar. At follow-up, after two months on the IBD-AID, Sara feels much improved and has considerably more energy. She is now sharing cooking duties with her spouse. She reports having no difficulty avoiding adverse foods, but adding probiotic foods is more difficult. Sara’s lab values reflect her symptomatic improvement, and interestingly, her perception of support from her family/spouse increased from 3 to 5, indicating the most support. She has also gained insight into how stress and lack of sleep impede her healing.