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Simple messages to improve dietary quality: A pilot investigation

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INTRODUCTION

• Public health recommendations for a healthy diet often involve complex messages, requiring in-depth knowledge for understanding and compliance.

• Sahyoun and colleagues reviewed nutrition intervention studies published from 1990-2003 and concluded that studies that limited dietary educational messages to one or two simple messages were more likely to have positive outcomes.

OBJECTIVE

• The present study compared the feasibility and initial efficacy of two simple messages (a high fiber diet or a low saturated fat diet) to a combination message (high fiber and low saturated fat) on the potential to impact dietary quality and metabolic health.

METHODS

• Thirty-six participants were randomized to one of three intervention conditions: 1) increase fiber intake ≥30g/day; 2) decrease saturated fat intake ≤7% of calories; and 3) increase fiber and decrease saturated fat.

• Participants received 7 individual dietary counseling sessions over 5 months to help them make the prescribed dietary change.

• Study assessments occurred at baseline, 3 months, and 6 months. Feasibility measures included: retention, session attendance, and participant satisfaction with the intervention.

• Mean dietary quality score, saturated fat, fiber, and body weight by visit and study group was estimated using SAS PROC MIXED.

RESULTS

• The sample was 84% female (mean age=49 years) and 94% Caucasian. Mean body mass index (BMI) was 31 kg/m².

• Ten subjects (83.3%) completed all 7 sessions in the high fiber condition (mean=6.75 sessions, SD=0.62), and 7 participants (70%) completed all 7 sessions in the low saturated fat condition (mean=6.30, SD=1.16). Seven participants (70%) completed all 7 intervention sessions in the combination condition (mean attendance=6.00, SD=0.70).

• At the 6-month assessment phase, we retained all 12 patients in the high fiber diet arm, 10 of 12 in the low saturated fat arm, and 9 of 12 in the combination arm.

• Participants reported that the dietary fiber intervention was easier to maintain compared to the other two intervention conditions (83% for dietary fiber, vs. 60% for low saturated fat, and 33% for the combination, p=0.008).

• (See Table) Overall dietary quality, saturated fat and fiber improved in all three conditions during the study (p=0.01). In addition to increasing fiber, the high fiber condition decreased their saturated fat intake, even though reduction in saturated fat was not a part of that intervention arm. Conversely, the saturated fat condition slightly improved dietary fiber intake, although it was not a part of their intervention.

• (See Table) Participants in all three conditions lost an average of 9 lb (4 kg) from baseline weight (p<0.001).

CONCLUSIONS

• A simple dietary message appears to improve overall dietary quality and aid in weight management.

• Simple messages are a novel approach which could make a significant impact on the prevention and treatment of chronic disease as well as weight management.

• Results support the need for a larger randomized controlled trial that is powered to examine the efficacy of a simplified dietary recommendation for dietary quality and metabolic health.

• It would be worth exploring the impact of simple messages in a larger trial to determine their usefulness as simple public health messages as an alternative the current complex recommendations.

ACKNOWLEDGEMENTS

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• The authors greatly appreciate Alison Kiely for her diligence and attention to the dietary assessment calls to the participants in the study.

Table: Change in dietary quality, saturated fat intake, dietary fiber and body weight during the study, Cancer Dietary Objectives Study (Can Do Study), Worcester, Massachusetts, 2007-2008

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>Intervention effect</th>
<th>p-value for intervention effect (p-value for time)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Combo</td>
<td>high-fiber</td>
<td>Low-sat fat</td>
</tr>
<tr>
<td>Dietary quality score</td>
<td>38.65</td>
<td>38.24</td>
<td>38.81</td>
</tr>
<tr>
<td>% calories from saturated fat</td>
<td>10.05 (0.67)</td>
<td>11.26 (0.78)</td>
<td>11.85 (0.83)</td>
</tr>
<tr>
<td>Total dietary fiber (g/day)</td>
<td>21.70</td>
<td>21.77</td>
<td>21.77</td>
</tr>
<tr>
<td>Weight (lb)</td>
<td>189.3</td>
<td>191.3</td>
<td>205.4</td>
</tr>
</tbody>
</table>