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# Simple messages to improve dietary quality: A pilot investigation

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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  $\geq 30\text{g/day}$ ; 2) decrease saturated fat intake  $\leq 7\%$  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/m<sup>2</sup>.
- 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=6.60, 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 to the current complex recommendations.

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.

|                               | Baseline     |              |              | Intervention effect          |              |              |                              |              |              | *p-value for intervention effect (p-value for time) |
|-------------------------------|--------------|--------------|--------------|------------------------------|--------------|--------------|------------------------------|--------------|--------------|---|
|                               | Combo        | high-fiber   | Low-sat fat  | 3 month change from baseline |              |              | 6 month change from baseline |              |              |   |
|                               | n=9          | n=12         | n=10         | Combo                        | high-fiber   | Low-sat fat  | Combo                        | high-fiber   | Low-sat fat  |   |
| Dietary quality score         | 38.55 (3.24) | 36.73 (2.81) | 31.40 (3.07) | 5.20 (3.70)                  | 8.17 (3.20)  | 4.38 (3.51)  | 1.21 (3.70)                  | 2.05 (3.20)  | 9.78 (3.51)  | 0.14 (0.01)   |
| % calories from saturated fat | 10.96 (0.87) | 11.51 (0.76) | 11.85 (0.83) | -4.21 (0.95)                 | -3.03 (0.83) | -3.09 (0.91) | -3.48 (0.95)                 | -3.27 (0.83) | -3.66 (0.91) | 0.83 (<0.001)                                       |
| Total dietary fiber (g/day)   | 22.60 (2.30) | 17.90 (1.99) | 14.47 (2.18) | 2.65 (2.27)                  | 7.91 (1.97)  | 1.49 (2.16)  | 1.11 (2.27)                  | 6.68 (1.97)  | 2.94 (2.16)  | 0.15 (0.003)  |
| Weight (lbs)                  | 188.3 (9.0)  | 191.3 (7.7)  | 205.4 (8.5)  | -6.7 (2.3)                   | -7.0 (2.0)   | -9.1 (2.2)   | -7.0 (2.3)                   | -9.1 (2.0)   | -10.2 (2.2)  | 0.80 (<0.001)                                       |

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