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Repository Citation

Olendzki BC, Ma Y, Schneider KL, Merriam PA, Culver AL, Ockene IS, Pagoto SL. (2008). Simple messages to improve dietary quality: A pilot investigation. Preventive and Behavioral Medicine Publications. Retrieved from https://escholarship.umassmed.edu/prevbeh_pp/204

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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/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=6.60, 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)

ACKNOWLEDGEMENTS

- This research was supported by the American Cancer Society, Grant No. IRG 93-033, to Barbara Olendzki, RD MPH, LDN.
- The authors greatly appreciate Alison Kiely for her diligence and attention to the dietary assessment calls to the participants in the study.