A Self-Help Intervention to Change Patient Dietary Behavior in Rural Communities


Study Overview

Objective. To evaluate the impact of a low-intensity, self-help dietary educational intervention on patient fat and fiber dietary behavior, knowledge, and intention to change.

Design. Community-based randomized controlled trial.

Setting and participants. Patients were recruited from 3 rural Virginia physician practices. Participants were excluded if they lived outside the targeted geographic region, were aged < 18 or > 72 years, or had either a serious medical illness or were already on a prescribed diet.

Intervention. All participants received a baseline telephone interview regarding their current fat and fiber dietary behavior. Participants allocated to the intervention arm initially received personalized feedback regarding dietary change (based on the baseline survey) and a series of self-help booklets designed to aid in reducing fat and increasing fiber. Educational booklets were mailed weekly during the intervention phase. Brief telephone counseling followed these mailed, written interventions. All interventions were distributed within the first 4 weeks of randomization.

Main outcome measures. A questionnaire was administered at 1, 6, and 12 months postintervention that contained 28 questions in content domains related to fat and fiber knowledge, intentions to change behavior, and self-efficacy for dietary changes.

Main results. Of 1927 patients who were contacted, 754 were randomized to either the intervention group (n = 377) or control group (n = 377). Baseline demographics and questionnaire scores were similar between the groups except for baseline fat knowledge scores, which were lower in the control group. Intervention group patients had statistically significant improvements in dietary fat and fiber behavior at 1, 6, and 12 months compared with the control group. There were no significant differences between groups in fat knowledge or self-efficacy scores. Individuals in the intervention group had better scores at all time periods for intention to change fat and fiber behavior.

Conclusion. Among rural, low-literacy individuals, a low-intensity, self-help dietary intervention appears to affect dietary behavior.

Commentary

Mounting evidence supports the impact of dietary behavior on cancer [1] and cardiovascular risk [2]. Unfortunately, changing patient dietary behavior remains a challenging task. In the research setting, several interventions have been demonstrated to be effective at promoting dietary behavior change [3]. Yet, many of these interventions pose major logistical challenges to practices wishing to implement them. As such, several studies have begun to focus on so-called “low-intensity” programs, which may be more feasible to implement in a practice-based setting. A few trials have demonstrated that low-intensity programs might be efficacious; however, it is still unclear if these low-intensity programs might be useful in rural populations.

Fries et al, as part of the Rural Physician Cancer Prevention Project, have demonstrated that a low-intensity intervention that incorporates direct patient diet behavior feedback along with written self-help interventions appears to improve patient fat and fiber behavior. Even more so, this effect was sustained to up to 1 year after the intervention.

Although these results are promising, they should be interpreted cautiously. First, all outcomes were self-reported; thus, a significant bias could have been introduced. Second, outcomes were measured using scales and therefore are challenging to interpret clinically. A 0.02-point drop in a 0- to 3-point fat behavior scale may be a statistically significant change.

“Outcomes Research in Review” is edited by Stephen D. Persell, MD, MPH, Department of Medicine, Northwestern University, Chicago, IL; Harvey J. Murff, MD, MPH, and Christianne L. Roumie, MD, MPH, Division of General Internal Medicine, Vanderbilt University Medical Center, Nashville, TN; David R. Spigel, MD, Sarah Cannon Research Institute, Nashville, TN; and Thomas D. Sequist, MD, MPH, and Mark S. Horng, MD, Division of General Medicine, Brigham and Women’s Hospital, Boston, MA.
result, but it is unclear if this translates into a clinically meaningful reduction in dietary fat intake. Finally, the study incorporated multiple telephone contacts and mailings that required a significant workforce effort, which may be harder to implement in a small practice. Although the study may be lower in intensity than some interventions, the actual intensity of the intervention is relative to the overall practice setting. Smaller, rural practices may not be able to afford the elaborate data collection process required to deliver the personalized feedback.

Applications for Clinical Practice
A low-intensity/low-literacy level educational intervention incorporating personalized patient dietary feedback appears to improve patient fat and fiber knowledge scores in a rural patient population. Further studies determining the clinical significance of the intervention are warranted.

—Review by Harvey J. Murff, MD, MPH

References