

Keep Weight Off: Up Protein, Cut Glycemic Load

BY MARY ANN MOON

FROM THE NEW ENGLAND JOURNAL OF MEDICINE

A modest increase in protein content and a modest decrease in glycemic index values allowed study subjects to maintain a 10-kg weight loss better than did other dietary manipulations, according to a randomized trial.

More subjects also were able to continue losing weight while consuming this combination of high-protein, low-glycemic-index foods, said Thomas Meinert Larsen,

(25%-30% of total energy consumed), all allowed unrestricted caloric intake, and all attempted to keep alcohol and fiber contents comparable, varying only in their protein content and glycemic indexes.

The study was conducted at research centers throughout Europe. A total of 773 subjects who achieved their target weight loss during the low-calorie-diet period were randomly assigned to continue a 26-week maintenance phase following a diet low in protein (13% of total energy) with a low glycemic index; a diet low in protein with a high glycemic index; a diet high in protein (25% of total energy) with a low glycemic index; a high-protein, high-glycemic index diet; or a control diet with moderate protein content and no guidelines regarding glycemic index (N. Engl. J. Med. 2010;363:2102-13).

The study subjects received dietary counseling every other week for 6 weeks, and then monthly thereafter. They were given recipes, cooking instructions, behavioral advice, and a teaching system to help them achieve the targeted composition of macronutrients.

A total of 29% of the subjects dropped out of the study during this 6-month maintenance phase, a rate nearly 10% higher than expected. Nevertheless, the Diogenes participants "were probably a more adherent group than participants in other studies, since they had adhered sufficiently to the low-calorie diet for 8 weeks to lose at least 8% of their body weight," Dr. Larsen and his colleagues said, adding that "[d]espite issues of adherence, we believe that our results are generalizable to obese people, particularly if diets are facilitated by easy access to low-glycemic-index foods."

Weight regain was significantly higher in the low-protein groups and the high-glycemic-index groups. In con-

trast, both the high-protein and low-glycemic-index groups were more likely to maintain their weight loss and to lose an additional 5% of their body weight.

Only subjects assigned to the group with low protein content and high glycemic index showed significant weight regain – a mean of almost 2 kg.

These findings show that "even a modest increase in dietary protein or a modest reduction in glycemic-index values was sufficient to minimize weight regain and promote further weight loss in obese patients after a successful weight-loss diet," they said. ■

VITALS

Major Finding: Only subjects assigned to the group with low protein content and high glycemic index showed significant weight regain – a mean of almost 2 kg.

Data Source: A multinational randomized controlled study of five dietary interventions to maintain weight loss for 6 months in 773 obese adults.

Disclosures: This study was funded by the European Commission. Dr. Larsen and his colleagues reported ties to more than 100 food companies and numerous drug companies.

Ph.D., of the University of Copenhagen and his associates in the Diet, Obesity, and Genes (Diogenes) study.

Diogenes was designed to assess the efficacy of five different maintenance diets in preventing weight regain after obese subjects lost at least 8% of their body weight during an 8-week low-calorie diet. The maintenance diets all contained moderate amounts of fats

More Time Will Tell

The main limitation of this study was the relatively short duration of follow-up.

"A 2-kg difference in body weight, by itself, has limited practical implications.

"But a diet that could effectively prevent weight regain over the long term would have major public health significance. In this regard, the 12-month and longer follow-up data will be informative," Dr. David S. Ludwig and Cara B. Ebbeling, Ph.D., noted.

DR. LUDWIG and DR. EBBELING are with the Optimal Weight for Life Program at Children's Hospital and in the pediatrics department at Harvard University, Boston. These comments were taken from an editorial accompanying Dr. Larsen's report (N. Engl. J. Med. 2010;363:2159-61).

VIEW ON THE NEWS

Increasing BMI Linked to Mortality

BY MARY ANN MOON

FROM THE NEW ENGLAND JOURNAL OF MEDICINE

Among white adults, both overweight and obesity are associated with increased all-cause mortality, a study has shown.

Mortality is lowest within a body mass index range of 20.0-24.9, said Amy Berrington de Gonzalez, D.Phil., of the division of cancer epidemiology and genetics at the National Institutes of Health, and her associates.

Underweight adults also appear to have a higher rate of all-cause mortality, although that association is not as strong, they said.

Some earlier studies suggested that being overweight (BMI, 25.0-29.9) either was beneficial or had lit-

tle effect on all-cause mortality, while others found slightly increased risks. These inconsistencies may have been due to confounding by tobacco use or disease-related changes in weight.

"We examined the relationship between BMI and all-cause mortality in a pooled analysis of 19 prospective studies" with at least 5 years of follow-up in which smoking status and prevalent disease could be accounted for, the investigators said. The analysis was restricted to non-Hispanic white adults (mean age, 58 years at baseline) "because the relationship between BMI and mortality may differ across racial and ethnic groups," Dr. de Gonzalez and her colleagues noted.

The 19 cohorts included 1.46 million people and 160,087 deaths during a median follow-up of 10 years.

A total of 58% of the study subjects were women.

When the analysis excluded smokers and people with prevalent disease, all-cause mortality was lowest at a BMI of 20.0-24.9 among both men and women and rose in a nearly linear fashion as BMI increased.

For example, in

women who were overweight (BMI, 25.0-29.9), the estimated hazard ratio was 1.13; this rose to 1.44 for obesity class I (BMI, 30.0-34.9); 1.88 for obesity class II (BMI, 35.0-39.9); and 2.51 for obesity class III (BMI, 40.0-49.9).

Hazard ratios were similar for men, except that they were even higher for obesity classes II and III.

"In our study, there were more than five times as many deaths among participants in the highest obesity categories (BMI of 35.0-39.9 and 40.0-49.9) than in previous studies because severe obesity has become more common," the investigators wrote. In the United States, the rates of these levels of BMI were estimated to be 11% among men and 17% among women in 2008, they added.

Statistical adjustments for other potential confounders such as alcohol consumption, physical activity level, education level, and marital status only attenuated these estimates slightly (N. Engl. J. Med. 2010;363:2211-9).

Hazard ratios also increased for a BMI below 20.0, but the results varied widely according to length of follow-up and level of physical activity. In underweight people, increased mortality "is probably, at least in part, an artifact of preexisting disease," Dr. de Gonzalez and her associates said. ■

VITALS

Major Finding: Among white, nonsmoking, healthy men and women, all-cause mortality rates showed a linear increase in association with increasing BMI.

Data Source: A pooled analysis of 19 prospective cohort studies involving 1.46 million white adults followed for a mean of 10 years, to provide mortality risk estimates associated with BMI.

Disclosures: The study was supported by the National Institutes of Health. One of Dr. de Gonzalez's associates said he received consulting fees from Iovate Health Sciences USA.

FDA Takes On Drug-Tainted Supplements

The Food and Drug Administration has issued a letter to manufacturers of dietary supplements concerning supplements that contain undeclared drugs or drug analogues as their active ingredients.

FDA tests "have revealed an alarming variety of undeclared active ingredients in products marketed as dietary supplements," including phosphodiesterase type 5 inhibitors, such as sildenafil (Viagra); anticoagulants, such as warfarin; and beta-blockers, such as propranolol, according to the letter. Among the illegally marketed products are those containing drugs that have been withdrawn from the market for safety reasons, including the weight-loss drugs sibutramine (Meridia) and fenfluramine.

Most of the tainted products were found in weight-loss, body-building, and sexual en-

hancement products.

In addition, the FDA announced a new RSS feed to alert consumers when a tainted product is identified and established new ways for industry to report products suspected of being tainted, either by sending an e-mail to TaintedProducts@fda.hhs.gov or filing an anonymous report.

Since 2007, the agency has issued consumer alerts about almost 300 tainted products containing an active drug ingredient. The FDA has received "numerous reports" of adverse events and injuries associated with these products, including stroke, kidney failure, pulmonary embolism, acute liver injury, and death, Dr. Joshua Sharfstein, the FDA's principal deputy commissioner, said during a press briefing announcing the new measures.

—Elizabeth Mechcatie