

SOUTHWESTERN NEWS

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INTERNATIONAL NUTRITION EXPERTS PONDER INCREASING OBESITY

DALLAS - Baked potato chips and low-fat cookies will not help you lose weight, concluded a group of international nutrition scientists at a recent conference.

In industrialized nations, people have reduced the amount of fat they eat, yet they are becoming more and more obese. Obesity is a major contributing cause of two of the world's biggest killers - cardiovascular disease and non-insulin-dependent diabetes mellitus (NIDDM).

"Obesity will be *the* disease of the 21st century," said Dr. Scott Grundy, director of the Center for Human Nutrition at UT Southwestern Medical Center at Dallas. "The reasons for the high prevalence of obesity are of great interest and concern."

How to restructure the diet to reduce obesity was the focus of the Second International Conference on Fats and Oil Consumption in Health and Disease held in April at UT Southwestern.

Grundy and Dr. Martijn Katan, of the department of human nutrition at the Agricultural University in The Netherlands, were co-chairs of the conference, made possible by a grant from the International Olive Oil Council.

Scales around the world are inching up, the experts noted.

"In most European countries as well as the United States and Canada a simultaneous increase in fatness and a decrease in energy percent from fat have been observed during the last decade," said Dr. Jaap Seidell of The Netherlands.

Perhaps it has come with advanced civilization, he theorized. When man was mostly a hunter/gatherer, obesity was rare and usually found among the affluent, according to Seidell, an epidemiologist with the National Institute of Public Health and

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Environment in The Netherlands. Hunter/gatherers didn't smoke, expended a great deal of energy and ate little fat or refined carbohydrates.

With modernization, obesity became common, along with a high rate of smoking, low energy expenditure and a high intake of fat and refined carbohydrates. Even now, in "post-modernization" times, obesity is still common - particularly among the least affluent - although smoking and fat intake have gone down. But energy expenditure is still low, and intake of refined carbohydrates has gone up.

"Obesity has crept up in the lower economic ranks while it has almost disappeared in those with the highest education," Seidell said. "This may mean obesity is preventable with education."

LOW-FAT, HIGH-CARBOHYDRATE DIETS

As modern man reduced his dietary fat and cholesterol, many nutritionists suggested that energy should come largely from high-carbohydrate foods, such as pasta, beans and whole-wheat grains, and that most fats and oils be restricted. One expert concluded that this imbalance can contribute to obesity.

"The scientific basis for this recommendation is less firm than it may appear because there have been few or no controlled clinical trials with fat replacement by carbohydrates as the only form of treatment," said Katan.

In metabolic-ward studies in which body weight was held constant, low-fat, high-carbohydrate diets lowered levels of both the bad and good forms of cholesterol and raised fasting triglycerides; thus, the benefit gained by the fall in low-density lipoproteins (LDL), the "bad" cholesterol, may be cancelled by the fall of high-density lipoproteins (HDL), the "good" cholesterol.

There is a paradox, however. Some populations subsisting on low-fat, high-carbohydrate diets have low body weights and very low rates of heart disease, Katan said. That might offset the adverse changes in HDL and triglycerides observed in volunteers consuming low-fat, high-carbohydrate diets under weight maintenance conditions. These diets may lower coronary rates because they lower not only LDL but also body weight.

"The question is whether this effect on weight can be translated into modern-day

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Western societies," he said. "The lack of obesity in populations eating high-carbohydrate, low-fat diets, such as that of China, may have as much to do with poverty, hard physical labor and bulky, monotonous meals as with the fat content of the diet."

Better long-term tests are needed to evaluate how low-fat foods now on grocery-store shelves in the United States and Europe will affect body weight.

"It is conceivable that such foods will leave body weight largely unchanged. In that case, there will be nothing to compensate the adverse effects low-fat diets have on HDL," Katan said.

But diets high in saturated fat and cholesterol do raise LDL levels and coronary risk, and replacements for these nutrients are needed, he said. Unsaturated fatty acids have a better track record than high-carbohydrate diets, Katan said. He suggested that replacing some saturated fats in the diet with unsaturated oils, such as olive oil, rather than carbohydrates may be the best documented option for preventing coronary heart disease.

SATURATED VS. UNSATURATED FATS

Unsaturated fats -- monounsaturates or polyunsaturates -- are better for non-insulin-dependent diabetics, according to Dr. Abhimanyu Garg, associate professor of internal medicine at UT Southwestern.

"Since most of these patients are obese, there is a general consensus about reducing excess body weight by restricting total energy intake," he said. "There is no controversy about reducing the intake of saturated fat and cholesterol in the diet to lower levels of LDL cholesterol as much as possible. There is a considerable debate, however, regarding the optimal source of energy to replace saturated fatty acids in the diet of patients with noninsulin-dependent diabetes mellitus."

Several experts suggest that diabetes should replace saturated fatty acids with carbohydrates, with the goal of raising the intake of calories from carbohydrates to 50 percent or more. Others, however, point out the potentially harmful effects of high-carbohydrate intake - high triglycerides and lower HDL.

"Recent studies from our group have shown that in patients with non-insulin-

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dependent diabetes mellitus, a diet rich in monounsaturated fatty acids (i.e. olive oil, etc.) compared to a high-carbohydrate diet improves glycemic control, reduces plasma triglycerides and very-low-density lipoprotein (VLDL) cholesterol levels, and increases HDL."

OVEREATING

Laboratory animal studies have shown that high-fat diets can lead to overeating and obesity.

Diets with substantial amounts of carbohydrates tend to suppress fat oxidation and foster fat storage, said Dr. Marc Friedman of the Monell Chemical Senses Center in Philadelphia. It is possible that fats are less satiating when mixed in a diet containing relatively large amounts of carbohydrates because they are stored rather than oxidized.

Dr. Arne Astrup, of the Royal Veterinary and Agricultural University in Denmark, said food preference is also a factor.

"Obese people tend to choose a high-fat, low-carbohydrate diet," he said.

While there are no specific Recommended Dietary Allowances for carbohydrates or fats, the National Academy of Sciences report "Diet and Health: Implications for Reducing Chronic Disease Risk," issued in 1989, recommends reducing total fat intake to 30 percent or less of calories, reducing saturated-fatty-acid intake to less than 10 percent of calories and reducing dietary cholesterol to less than 300 milligrams per day. The American Heart Association and the National Cholesterol Education Program recommend that 30 percent or less of total calories come from fat, 50 percent to 60 percent from carbohydrates and 10 percent to 20 percent from protein.

Several studies show that reducing fat consumption below the 30 percent level has little impact on weight.

"There's nothing magical about calories from fat or calories from carbohydrate affecting weight," said Dr. Walter Willett of the Harvard School of Public Health. "There appears to be little if any relationship between dietary fat consumption in the range of 18 percent to 40 percent on energy and body weight."

He said scientists should avoid issuing recommendations regarding the percentage

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of energy from total fat in the diet and support proven obesity-fighters such as exercise.

PHYSICAL INACTIVITY

The level of fat in our diets combined with sedentary lifestyles are key factors in "the current epidemic of obesity in many affluent nations," said Professor Andrew Prentice of MRC Dunn Clinical Nutrition Centre in the United Kingdom.

He said the body mass index of the British population has been increasing steadily for the past 50 years.

"This has been associated with a marked increase in the fat-to-carbohydrate ratio of the diet, but it should be noted that dietary fat percent has been constant, or declining slightly, since the 1980s, when obesity prevalence doubled in the UK. . . . There is abundant evidence to implicate modern, inactive lifestyles as a key predisposing factor in obesity."

AGING

Obesity tends to rise with age, but the relative intake of carbohydrates and fats generally do not change throughout life, according to Grundy; therefore, a drop in activity level must be at fault.

That can be compensated for by reducing specific dietary fats, Grundy said. He suggested targeting animal fats and hydrogenated oils (stick margarines) as a simple way to scale back about 300 calories each day.

"If these products are eliminated and not replaced, weight reduction will occur, and serum cholesterol levels will fall; moreover, any adverse change induced by alteration in fat intake should be offset by a reduction in body weight," he said.

Obesity can be sustained with only small overindulges, he explained. An extra 300 calories per day can maintain 20 pounds of extra body weight.

"This relatively small difference in caloric balance has a major effect on body fat content, producing a change from the desirable range to the overweight range."

Grundy added that the importance of exercise cannot be ignored.

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THE FUTURE

All the scientists agreed on one issue: Recent breakthroughs in genetics will shed a brighter light on obesity.

"We really don't understand much about obesity," said Dr. Jules Hirsch, of Rockefeller University. "But in the next few years we may get a lot more answers from genetic research."

Among the complex problems to solve, according to Hirsch, are why obese people struggle to maintain weight loss, and why subjects who gain weight become "inefficient" -- requiring a higher number of calories for weight maintenance, and why those who lose must consume fewer calories to maintain the loss.

The nutrition experts also agreed that some degree of caloric reduction will be required for weight loss. Dr. A. Stewart Truswell, of the University of Sydney, Australia, said consumers need practical and realistic approaches to a healthier diet.

Because primary-care physicians are usually the most trusted members of society, if they would simply mention weight gain, it could greatly influence an obese patient, he said.

"Physicians should develop simple dietary guidelines, give reinforcing written material to patients and share the nutrition work with a dietitian," he said.

The other way to get the message to consumers is to translate nutritional jargon first into foods and – even more difficult – into changed eating behavior. Truswell suggested moving towards cuisine with better health associations, such as the Mediterranean diet and the Japanese diet, changing one's diet by substituting better choices, and working within the family's culinary tradition.

The work presented at the two-day conference will be published in an upcoming issue of *The American Journal of Clinical Nutrition*.

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