

SOUTHWESTERN NEWS

Contact: Shanna Swendson
(214) 648-3404

OBESITY, AGE CONTRIBUTE TO HIGHER CHOLESTEROL LEVELS IN WOMEN

DALLAS — February 28, 1994 — Excess body weight is associated with higher cholesterol levels in women, and, therefore, a greater risk for heart disease, report researchers at The University of Texas Southwestern Medical Center at Dallas.

In post-menopausal women, however, cholesterol levels increase dramatically with age, even in lean women, according to their study, published in the Feb. 28 issue of the *Archives of Internal Medicine*.

The study compared blood lipid (fat) and lipoprotein levels in women for six different body-mass groups and three age groups: pre-menopausal (20 to 44 years old), peri-menopausal (45-59) and post-menopausal (60-74). This study was a companion to one considering the effects of obesity on cholesterol levels in men, which was published in the May 10, 1993, issue of the *Archives of Internal Medicine*. Men and women were considered separately because of hormonal differences, among other factors.

"Across all ages for the men, we found that the higher the weight, the higher the triglycerides and the lower the HDL (high-density lipoprotein, the "good" cholesterol)," said Dr. Margo A. Denke, lead author of the study and an assistant professor of internal medicine and a researcher in the Center for Human Nutrition at UT Southwestern.

"What we found in the women is that young women behaved very much like young men: As body weight increased, total and LDL (low-density lipoprotein, the "bad" cholesterol) levels increased. But in the older women, there was such a dramatic rise in the cholesterol levels, even in the lean women, that it overwhelmed the effects of body weight in influencing LDL levels," said Denke.

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In the pre-menopausal group, obese women who were approximately 30 percent or more above their ideal weight had 18 milligrams per deciliter higher total cholesterol levels and 17 mg/dL higher LDL levels than lean women who were within 10 percent of their ideal weight.

For post-menopausal obese women, the differences were smaller: 5 mg/dL higher total cholesterol and 1 mg/dL higher LDL levels than lean women in the same group. Despite the variable effects on total and LDL cholesterol levels, rising body weight was associated consistently with higher triglyceride levels of 80 to 150 mg/dL and lower HDL levels of 8 to 10 mg/dL in all three age groups.

"Obese post-menopausal women have the highest ratio of total cholesterol to HDL and, therefore, the highest risk for heart disease," Denke said. The two companion studies found that older overweight women had even higher cholesterol levels than older overweight men.

"These two papers demonstrate that increasing body weight is harmful to your cardiovascular health," Denke said. "In one respect, increased body weight can alter cholesterol values and add risk for heart disease. In addition, body weight can change blood pressure and other mechanical factors that also promote cardiovascular risk."

Participating in the study with Denke were Dr. Scott M. Grundy, director of the Center for Human Nutrition and holder of the Distinguished Chair in Human Nutrition, and Dr. Christopher T. Sempos, National Center for Health Statistics of the Centers for Disease Control and Prevention. The study was funded by a National Heart, Lung, and Blood Institute Clinical Investigator Award to Denke.

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