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New research points to benefits of eggs, even for those at cardiovascular risk

Nutrition research from Experimental Biology 2013

Park Ridge, Ill. (April 23, 2013) - This week at Experimental Biology (EB) 2013, scientists from around the world are gathering to share research on a variety of topics, including nutrition and health. Given the growing global burden of chronic disease, there is particular interest in the important role of diet and nutrition in overall health. Several studies presented at the conference looked specifically at the role of whole egg consumption in high-risk groups, including those with metabolic syndrome and heart disease, as well as the satiating effects of high-protein breakfast consumption for overweight adolescents.

Evidence to Support Eggs as Part of a Heart Healthy Diet

Research from Yale University explored the impact of daily whole egg consumption in men and women with coronary heart disease(1). The subjects were randomized to consume either two eggs, ½ cup of egg substitute or a high-carbohydrate breakfast for six weeks as part of their typical diet. The subjects who ate either whole eggs or egg substitute did not experience any negative impact in total cholesterol, blood pressure, body weight or endothelial function. The researchers concluded that whole eggs can be a part of a heart healthy diet, even in those with existing coronary heart disease.

Whole Egg Consumption Promotes Favorable Lipid Changes in those with Metabolic Syndrome

Research from the University of Connecticut suggested that daily whole egg consumption may have a positive effect on the function and composition of HDL cholesterol in adults with metabolic syndrome. Subjects followed a carbohydrate-restricted diet, and consumed either three eggs per day or an equivalent amount of egg substitutes(2). After 12 weeks, subjects consuming whole eggs experienced improvements in HDL (good cholesterol) composition and ability to remove cholesterol from the blood.

Those eating three whole eggs daily also had HDL that was lower in triacylglycerol and higher in a beneficial component of egg yolks (phosphatidylethanolamine)(2). "Taken together with previously established benefits of egg intake on HDL profiles, these findings further support the notion that eggs serve as a functional food to reduce cardiovascular disease risk in individuals with metabolic syndrome," says Catherine Andersen, lead study author and PhD candidate at the University of Connecticut.

High Protein Breakfast Results in Decreased Daily Calorie Intake

Researchers at University of Missouri presented data comparing the effects of a normal-protein cereal breakfast (15% meal calories), high-protein egg and pork breakfast (40% meal calories) and no breakfast on satiety in overweight/obese adolescents who normally skip breakfast(3). The group that consumed the high protein egg and pork breakfast reported a decrease in hunger and an increase in fullness

compared to the normal protein and breakfast-skipping group. The individuals eating a high protein breakfast also voluntarily reduced their intake by more than 400 calories per day over the 12-week study. No significant differences were seen in weight between groups; however, breakfast skippers were found to have significant increases in percent body fat mass compared to those who ate the normal and high protein breakfasts. This study supports the benefits of a high protein breakfast as a weight management strategy among overweight and obese adolescents(3).

"This year's EB program showcased cutting-edge nutrition research with wide-reaching public health implications," says Mitch Kanter, PhD, Executive Director of the Egg Nutrition Center. "Furthermore, many studies underscore a positive role for eggs in the current chronic disease challenges we face." For more information about egg nutrition research and the benefits of egg consumption, please visit eggnutritioncenter.org.

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About the Egg Nutrition Center (ENC)

ENC is dedicated to providing accurate information on eggs, nutrition, and health, and sponsors scientific research on this topic. Research grants are openly solicited and reviewed by a Scientific Advisory Panel of authorities in health research and clinical practice. Independent scientists guide many of the research projects and provide analysis and interpretation of scientific literature. The ENC is funded by the American Egg Board, which uses funds from egg farmers for promotion and research. The U.S. Department of Agriculture provides oversight of its activities. ENC is located in Park Ridge, Ill. Visit www.EggNutritionCenter.org for more information.

About the American Egg Board (AEB)

AEB connects America's egg farmers with consumers, communicates the value of the incredible edible egg™ and receives funding from a national legislative checkoff on all egg production from companies with more than 75,000 hens in the continental United States. The board consists of 18 members and 18 alternates from all regions of the country who are appointed by the Secretary of Agriculture. The AEB staff carries out the programs under the board's direction. AEB is located in Park Ridge, Ill. Visit www.IncredibleEgg.org for more information.

References:

1. Katz et al. Effects of egg ingestion on endothelial function in adults with coronary artery disease: a randomized, controlled, crossover trial. *Experimental Biology* 2013. Boston, MA. April 20, 2013.
2. Andersen CJ, Blesso CN, Lee J, Barona J, Shah D, Thomas MJ, Fernandez ML. Egg consumption modulates HDL lipid composition and increases the cholesterol-accepting capacity of serum in metabolic syndrome. *Lipids*. 2013; doi 10.1007/s11745-013-3780-8
3. Leidy HJ, Hoertel HA, Douglas SM, Shafer RS. Daily addition of a protein-rich breakfast for long-term improvements in energy intake regulation and body weight management in overweight & obese 'breakfast skipping' young people. *Experimental Biology* 2013. Boston, MA. April 20, 2013.