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Katarina M. Sussner, PhD, MPH; Ana C. Lindsay, DrPH, DDS;
Karen E. Peterson, ScD, RD
(See This Month in the *Journal of the American Dietetic Association*, page 197.)
- 226 **CURRENT RESEARCH: US Adolescents and MyPyramid: Associations between Fast-Food Consumption and Lower Likelihood of Meeting Recommendations**
Rhonda S. Sebastian, MA; Cecilia Wilkinson Enns, MS, RD;
Joseph D. Goldman, MA
The objective of this study was to determine whether fast-food consumption is associated with adolescents' food group intakes and likelihood of meeting recommendations outlined in the MyPyramid Food Guidance System. Data from two 24-hour recalls collected from adolescent boys and nonpregnant girls aged 12 to 19 years in the National Health and Nutrition Examination Survey 2003-2004 were analyzed. Negative associations were found between fast-food consumption and percentages of adolescents meeting recommendations in milk (boys), fruits (girls), and vegetables and discretionary energy (boys and girls). Compared to those consuming no fast food, adolescents in the highest tertile of energy from fast food were less likely to meet recommendations for vegetables and discretionary energy. No relationships were found between fast-food consumption and grains, meat/beans, and oils.
- 236 **CURRENT RESEARCH: Differential Influence of Diet and Physical Activity on Components of Metabolic Syndrome in a Multiethnic Sample of Children**
Krista Casazza, PhD, RD; Akilah Dulin-Keita, PhD; Barbara A. Gower, PhD;
Jose R. Fernandez, PhD
(See This Month in the *Journal of the American Dietetic Association*, page 197.)

ONLINE EXTRA

Information from Table 3 in this article is available online at www.adajournal.org as part of a PowerPoint presentation.

245 **CURRENT RESEARCH: Urinary Isoflavones and Their Metabolites Validate the Dietary Isoflavone Intakes in US Adults**

*Ock Kyoung Chun, PhD, MPH; Sang Jin Chung, PhD, RD;
Won O. Song, PhD, MPH, RD*

This study aimed to validate the approach of estimating dietary isoflavone intake with respective urinary isoflavone concentrations in US adults. Data from the US Department of Agriculture isoflavone database and dietary recalls of 2,908 US adults with urinary isoflavone data in the 1999-2002 National Health and Nutrition Examination Survey were used. Dietary isoflavone was consumed by only 35% of adults in a day with an average intake of 3.1 mg/day, which resulted in a mean intake of 1.0 mg/day for all US adults. The isoflavone intakes were from genistein, daidzein, glycitein, biochanin A, and formononetin. Geometric mean urinary isoflavone concentration was 5.0 ng/mL among isoflavone consumers and the urinary genistein and daidzein excretion correlated with their isoflavone intake levels. The authors conclude that in large population-based studies, estimated dietary isoflavone intake can be validated by urinary isoflavones.

255 **CURRENT RESEARCH: Cluster Analysis Defines Distinct Dietary Patterns for African-American Men and Women**

Delores C. S. James, PhD, RD

African Americans have a higher prevalence of diet-related chronic diseases than the general US population, so this study examined the dietary patterns of African-American men and women using cluster analysis. Participants were 763 African-American men and women older than the age of 18 years who were recruited from a variety of locations in North Central Florida and completed a self-administered questionnaire. Cluster analysis of the data collected identified six clusters of men with 13 distinctive dietary patterns and six clusters of women with 15 distinctive dietary patterns. Pairwise comparisons of group means indicated notable differences in intakes between clusters of men in all but two food clusters, as well as between clusters of women in all but two food clusters. The authors concluded that the study illustrated the ability of cluster analysis to identify groups of African Americans with unique patterns of food consumption.



263 **CURRENT RESEARCH: A Low-Fat Vegan Diet Elicits Greater Macronutrient Changes, but Is Comparable in Adherence and Acceptability, Compared with a More Conventional Diabetes Diet among Individuals with Type 2 Diabetes**

*Neal D. Barnard, MD; Lise Gloede, RD; Joshua Cohen, MD;
David J. A. Jenkins, MD, PhD; Gabrielle Turner-McGrievy, MS, RD;
Amber A. Green, RD; Hope Ferdowsian, MD, MPH*

(This article has been approved for Continuing Professional Education credit. The Continuing Professional Education Learning Need Codes for this article are 4000, 4110, 5000, and 5190.)

(See This Month in the Journal of the American Dietetic Association, page 197.)



273 **REVIEW: Impact of Garden-Based Youth Nutrition Intervention Programs: A Review**

Ramona Robinson-O'Brien, PhD, RD; Mary Story, PhD, RD; Stephanie Heim, MPH

(This article has been approved for Continuing Professional Education credit. The Continuing Professional Education Learning Need Codes for this article are 4000, 4020, 4160, 9000, and 9020.)

(See This Month in the Journal of the American Dietetic Association, page 197.)

281 PERSPECTIVES IN PRACTICE: Improving Literacy about Energy-Related Issues: The Need for a Better Understanding of the Concepts behind Energy Intake and Expenditure among Adolescents and Their Parents

Melissa C. Nelson, PhD, RD; Leslie A. Lytle, PhD, RD; Keryn E. Pasch, PhD, MPH

Despite the need for effective obesity prevention strategies, little research has assessed adolescents' knowledge about basic concepts of energy intake, expenditure, and balance. Using data from 349 adolescent-caregiver pairs recruited from Minneapolis/St Paul, MN in 2006-2007, the authors of this study used cross-sectional regression to assess adolescent and parental knowledge related to energy intake and expenditure as a predictor of adolescent weight-related behaviors and outcomes. Findings indicated that knowledge related to energy intake and expenditure was highly variable, with a substantial proportion of participants (particularly adolescents) lacking knowledge on a range of concepts. However, in that knowledge was not a significant predictor of various weight-related outcomes, these and other findings suggest that purely education-based health promotion strategies are insufficient to initiate long-term healthful behavior change.

288 PERSPECTIVES IN PRACTICE: Americans' Awareness, Knowledge, and Behaviors Regarding Fats: 2006-2007

Robert H. Eckel, MD; Penny Kris-Etherton, PhD, RD; Alice H. Lichtenstein, DSc; Judith Wylie-Rosett, EdD, RD; Allison Groom, MA; Kimberly F. Stitzel, MS, RD; Shirley Yin-Piazza, MS

To help increase awareness and understanding of *trans* fats and other fats, the American Heart Association (AHA) launched the "Face the Fats" national consumer education campaign in April 2007. The AHA commissioned a quantitative tracking survey between 2006 and 2007 to measure changes in consumer awareness, knowledge, and behaviors related to fat and oils and their perceived impact on heart disease. The survey was conducted by Cogent Research, with data collected during March 2006 and May 2007. At both time points, the survey included a representative sample of the US population age 18 to 65 years. This article examines the findings of that survey, and the authors conclude that between 2006 and 2007, consumer awareness about *trans* fats increased and attained awareness levels similar to saturated fats, and that increased awareness is associated with self-reported behaviors in grocery shopping. Nonetheless, overall knowledge remains relatively low.

297 RESEARCH AND PROFESSIONAL BRIEFS: Excess Adiposity, Inflammation, and Iron-Deficiency in Female Adolescents

Lisa M. Tussing-Humphreys, MS, RD; Huifang Liang, PhD; Elizabeta Nemeth, PhD; Sally Freels, PhD; Carol A. Braunschweig, PhD, RD

The purpose of this cross-sectional study was to assess the relationship between iron status and excess adiposity, inflammation, menarche, diet, physical activity, and poverty status in female adolescents included in the National Health and Nutrition Examination Survey 2003-2004 dataset. Descriptive and comparative statistics were used to assess differences between normal-weight and heavier-weight girls for demographic, biochemical, dietary, and physical activity variables. In addition, logistic regression analyses predicting iron deficiency and linear regression predicting serum iron levels were performed. The authors' findings indicated that heavier-weight female adolescents are at greater risk for iron deficiency and that inflammation stemming from excess adipose tissue contributes to this phenomenon.

303 RESEARCH AND PROFESSIONAL BRIEFS: The Effect of a Low-Glycemic Diet vs a Standard Diet on Blood Glucose Levels and Macronutrient Intake in Children with Type 1 Diabetes

Alisha J. Rovner, PhD; Tonja R. Nansel, PhD; Laurel Gellar, MS

A low-glycemic index (GI) diet may lower postprandial hyperglycemia and decrease the risk of postabsorptive hypoglycemia in people with type 1 diabetes. The goal of this study was to examine the blood glucose response to and the macronutrient composition of low-GI meals vs usual meals consumed ad libitum at home in children with type 1 diabetes. Twenty-three participants recruited between June and August 2006 wore a continuous blood glucose monitoring system and completed diet diaries on 2 days. On 1 day, participants consumed their usual meal; on another day, participants consumed low-GI meals ad libitum. Order of the 2 days was counterbalanced. During the low-GI day, mean daytime blood glucose values, blood glucose area above 180 mg/dL, and high blood glucose index were lower compared to the usual meal day. Subjects also consumed more fiber and less fat on the low-GI day; however, there were no differences in energy, carbohydrate, or protein intake.

308 RESEARCH AND PROFESSIONAL BRIEFS: Five-Year Longitudinal and Secular Shifts in Adolescent Beverage Intake: Findings from Project EAT (Eating Among Teens)-II

*Melissa C. Nelson, PhD, RD; Dianne Neumark-Sztainer, PhD, RD;
Peter J. Hannan, MStat; Mary Story, PhD, RD*

This study's objective was to evaluate trends in beverage intake in a large, diverse adolescent cohort. Project EAT (Eating Among Teens)-II is a 5-year longitudinal study including two cohorts, which allows for observation of longitudinal changes from early to mid-adolescence and from mid- to late adolescence. Project EAT-II also examined secular trends in adolescent health behavior from 1999-2004 in mid-adolescence. Daily beverage servings were assessed using the Youth and Adolescent Food Frequency Questionnaire. Longitudinal findings indicate that soda and sugar-sweetened beverage intake increased significantly among younger males, and alcohol intake increased across all groups. Consumption of certain beverages decreased with age, including fruit juice, milk, other milk beverages, diet soda, and coffee/tea.

313 RESEARCH AND PROFESSIONAL BRIEFS: Genetic Variants in Phosphatidylethanolamine *N*-methyltransferase and Methylenetetrahydrofolate Dehydrogenase Influence Biomarkers of Choline Metabolism When Folate Intake Is Restricted

*Alexandre Ivanov, MS, RD; Susan Nash-Barboza, MS, RD; Sabrina Hinkis, MS;
Marie A. Caudill, PhD, RD*

Recent data suggest that choline requirements may be altered by polymorphisms in the phosphatidylethanolamine *N*-methyltransferase (PEMT) gene and in the methylenetetrahydrofolate dehydrogenase (MTHFD1) gene. This controlled feeding study, conducted in 2000-2001, examined the effects of the PEMT and MTHFD1 genetic variants on biomarkers of choline metabolism in premenopausal Mexican-American women after a 7-week period of folate restriction and after a 7-week period of folate treatment. During folate restriction, homocysteine was adversely influenced by PEMT 5465AA and by MTHFD1 1958AA; whereas decline in phosphatidylcholine was attenuated by PEMT -744CC. During folate treatment, no effects of the genotypes on the response of the measured variables were detected. These data suggest that polymorphisms in genes relevant to choline metabolism modulate parameters of choline status when folate intake is restricted.

319 RESEARCH AND PROFESSIONAL BRIEFS: Change in Food Choices Following a Glycemic Load Intervention in Adults with Type 2 Diabetes

*Carla K. Miller, PhD, RD; Melissa Davis Gutshcall, PhD, RD;
Diane C. Mitchell, MS, RD*

This study sought to evaluate change in food-group intake by participants after completing an intervention that included instruction about carbohydrate and the glycemic index using a quasi-experimental design. Individuals 40 to 70 years old with type 2 diabetes for 1 year or longer were recruited from February to August 2005 and September to December 2006, and were assigned to an immediate or delayed treatment group. A 9-week group-based intervention regarding the quantity and type of carbohydrate for diabetes management was provided. Foods were divided into nine main food groups and 166 subgroups based on the Dietary Guidelines for Americans 2005 and the US Department of Agriculture's Food Guide Pyramid, and three sets of 24-hour dietary recalls were used to assess food-group intake. Participants consumed significantly more servings of whole fruit and nonfat dairy products following the intervention and fewer servings of vegetable fats.

325 RESEARCH AND PROFESSIONAL BRIEFS: College Weight Gain and Behavior Transitions: Male and Female Differences

Mary Cluskey, PhD, RD; Deana Grobe, PhD

Little is known about sex differences in weight gain and related behaviors during the transition to college, so this study used a repeated-measures design to reveal measured weight changes from October to December 2005 among 379 male and female college students who participated in both weight assessments and revealed weight gains occurring early in college. Weight gains were found to be of greater incidence and magnitude among college males in the study. More than 25% of both college males and females gained >2.3 kg body weight in an 8-week period. Students described struggles in adapting healthful eating and exercise behaviors to college life, with consistent agreement that eating healthful diets was perceived to be a greater challenge than engaging in physical activity in the transition to college.

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Wendy Marcason, RD

ICON KEY



Continuing Education Article

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