



Inside this Issue

Page 2

Fighting Type 2 Diabetes with Dairy Foods

Kids Who Drink Non-Cow's Milk Beverages May Be at Risk of Vitamin D Deficiency

Page 3

Study Shows High-Protein Yogurt Snack Improves Satiety and Reduces Subsequent Food Intake

Weight Management: Another Reason to Meet Dietary Calcium Recommendations, Review Suggests

Page 4

Family Meals Matter

The United Dairy Industry of Michigan is the umbrella organization for the Dairy Council of Michigan and the American Dairy Association of Michigan. On behalf of funding members, these non-profit organizations provide science-based nutrition information to, and in collaboration with, a variety of stakeholders committed to fostering a healthier society, including health professionals, educators, school nutrition directors, academia, industry, consumers and media.

Nutrition Reports

A Newsletter of the United Dairy Industry of Michigan

The American Academy of Pediatrics Issues New Guidelines for Optimizing Kids' Bone Health

The foundation for lifelong bone health occurs in childhood and adolescence, a time when efforts to protect bone can be initiated, states the Committee on Nutrition of the American Academy of Pediatrics (AAP) in its new policy statement, "Optimizing Bone Health in Children and Adolescents." This AAP report recommends getting enough calcium, vitamin D, and exercise as key strategies for bone mineralization in kids and to reduce risk of osteoporosis, a disease of increased bone fragility.

The report also identifies factors affecting bone mass, both those that cannot be changed (e.g., genetics, gender, ethnicity) and those that can be modified.



Modifiable factors influencing bone mass include nutritional intake of calcium, vitamin D, protein, and sodium, consumption of soda, exercise and lifestyle, body weight, and hormonal status.

Recognizing that osteoporosis has its roots during the early years, a new AAP report emphasizes the importance of consuming recommended daily servings of dairy foods for bone health - two to three servings for children four to eight years and four servings for teens.

The AAP report endorses the Institute of Medicine's updated daily recommendations for calcium and vitamin D. For calcium, 200 mg/day is recommended for children younger than six months, 260 mg/day for those age six to 12 months, 700 mg/day for those age one to three years, 1,000 mg/day for four to eight year olds, and 1,300 mg/day for those aged nine

to 18 years. For vitamin D, the recommendations are 400 IU/day for children 12 months or younger, and 600 IU/day for those older than 12 months. Without vitamin D, only 10 percent to 15 percent of dietary calcium is absorbed.

Following are some strategies for helping children and teens improve their bone health and reduce the risk of osteoporosis:

- Encourage kids to consume the recommended servings of foods and beverages containing calcium and vitamin D, such as low-fat and nonfat milk, yogurt, and cheese. Each one cup (8-ounce) serving of milk, one cup of yogurt, or 1.5 ounces of natural cheese provides approximately 300 mg of calcium, and the calcium content of low-fat or flavored milk is similar to that of whole milk. Approximately 98 percent of cow's milk in the United States is fortified with 100 IU vitamin D per every 8 ounces; some yogurts, cheeses, juices, and breakfast cereals are also fortified with vitamin D. In addition to calcium and vitamin D, cow's milk provides other nutrients important for bone health, such as protein, phosphorus, and magnesium.

Continued on Page 2

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- Recognize that some cow's milk alternatives (e.g., soy- or almond-based beverages) may have a reduced amount of bioavailable calcium per serving, even when fortified with calcium. The amount of vegetables needed to meet daily calcium recommendations is considerable, which makes it difficult to meet calcium recommendations from vegetables alone.

- Children and teens with lactose intolerance may tolerate small amounts of dairy foods consumed at a time, lactose-free milk or

aged cheeses, and/or benefit from consuming lactase enzymes.

- Consuming dietary sources of calcium is preferred over calcium supplements for healthy children to establish lifelong healthy dietary habits. Vitamin D supplements may be needed for children who are not able to meet their vitamin D needs through their diet or are vitamin D-deficient. The report does not recommend routine screening for vitamin D deficiency in healthy children and teens.

- Encourage children and teens to participate in weight-bearing exercise such as walking, jogging, jumping, and dancing to increase bone density. Swimming and cycling are less effective exercises for optimizing bone health. Excessive high-impact exercise should be avoided because of the increased risk of fractures. ■

Golden, N.H., S.A. Abrams, and Committee on Nutrition. Optimizing bone health in children and adolescents. *Pediatrics* 134(4): e1229-e1243, 2014.

Fighting Type 2 Diabetes with Dairy Foods

Moderate evidence indicates that consumption of milk and milk products is associated with reduced risk of type 2 diabetes in adults, reports the *2010 Dietary Guidelines for Americans*. Findings from recent observational studies provide additional evidence suggesting that dairy foods may help reduce the risk of and/or treat type 2 diabetes, one of the most common chronic diseases worldwide.

The rapid rise in type 2 diabetes suggests a strong correlation with lifestyle and environmental factors, and the need to



focus on prevention. Reducing body weight, increasing physical activity, and consuming a healthy diet are recommended strategies to help prevent and/or treat type 2 diabetes. Dairy foods have long been recommended as part of a healthy diet.

A review of observational studies related to dairy foods and type 2 diabetes published in *Frontiers in Endocrinology* states "there is a strong and relatively consistent body of accumulating evidence indicating that dairy products may significantly reduce the risk of T2D [type 2 diabetes] and likely in a dose-response manner." Although the role of specific dairy products such as cheese and yogurt appears to be beneficial, the authors add that more research is needed to clarify their role and the mechanism(s) involved in potentially reducing the risk of type 2 diabetes.

Higher intake of yogurt was linked to lower risk of developing type 2 diabetes in adults, according to pooled data from three large observational studies and an updated meta-analysis. However, this association was not found for other dairy foods or total dairy

intake. The findings led the researchers to call for clinical studies to better understand the role of total dairy and individual types of dairy foods in type 2 diabetes prevention.

Dairy components such as calcium, vitamin D, magnesium, and dairy fat, specifically *trans*-palmitoleic acid, may lower risk of type 2 diabetes. A new large prospective study suggests that certain types of saturated fatty acids found in dairy products may help protect against type 2 diabetes. Research also suggests that probiotic bacteria in yogurt may lower risk of developing type 2 diabetes. ■

Kalergis, M., et al. Dairy products and prevention of type 2 diabetes: implications for research and practice. *Frontiers in Endocrinology* 4:1-6, 2013.

Chen, M., et al. Dairy consumption and risk of type 2 diabetes: 3 cohorts of US adults and an updated meta-analysis. *BMC Medicine* 12: 215, 2014.

Nestel, P.J., et al. Specific plasma lipid classes and phospholipid fatty acids indicative of dairy food consumption associate with insulin sensitivity. *Am. J. Clin. Nutr.* 99(1): 46-53, 2014.

Forouhi, N.G., et al. Differences in the prospective association between individual phospholipid saturated fatty acids and incident type 2 diabetes: the EPIC-InterAct case-cohort study. *Lancet Diabetes Endocrinol.* 2(10): 810-818, 2014.

Kids Who Drink Non-Cow's Milk Beverages May Be at Risk of Vitamin D Deficiency

Children who drink non-cow's milk beverages such as soy, rice, almond, flax, or goat's milk may be at risk of vitamin D deficiency, according to a study published in the *Canadian Medical Association Journal*. Compared to children who drank only cow's milk, those who drank only non-cow's milk were more than twice as likely to have low blood levels of vitamin D. This study assessed

the vitamin D levels and eating habits of 2,821 healthy Canadian children ages one to six.

"Fortified cow's milk has been identified as the main dietary source of vitamin D in early childhood ..." and "substitution of cow's milk with non-cow's milk beverages that have a lower vitamin D content could put children at unnecessary risk of complications from low dietary intake of vitamin D," state the

researchers. Previous studies have identified vitamin D-deficient rickets in children who did not drink cow's milk or take vitamin D supplements. ■

Lee, G.J., et al. Consumption of non-cow's milk beverages and serum vitamin D levels in early childhood. *CMAJ* 186(17): 1287-1293, 2014.

Study Shows High-Protein Yogurt Snack Improves Satiety and Reduces Subsequent Food Intake

Americans' increased frequency of snacking in recent decades has raised questions regarding its impact on obesity. In addition to how often snacks are consumed, the types of foods typically eaten as snacks may affect obesity risk. The U.S. population consumes nearly one-third of its daily intake from nutrient-poor, high-calorie snack foods such as desserts, salty/high fat foods, and candy, which may lead to over-eating or intake of excess calories. Research demonstrated that intake of a lower calorie, higher protein yogurt snack led to reduced post-snack hunger and increased fullness, as well as delayed subsequent eating, compared to consumption of a higher calorie, lower protein yogurt snack.

Building on this finding, researchers examined whether a high-protein, low-fat afternoon yogurt snack consumed by 20 healthy women would improve appetite control, satiety, and reduce subsequent food intake compared to intake of equally caloric high-fat, low-protein crackers or chocolate, which are commonly consumed snack foods.

Based on the findings, the researchers concluded "when compared to high-fat snacks, eating less energy dense, high-protein snacks like yogurt improves appetite, satiety and reduces subsequent food intake in healthy women." The yogurt snack led to approximately 100 fewer calories consumed at dinner compared to the snack of crackers or chocolate.

Further support for the benefits of healthy snacks comes from a critical review of food consumption patterns and nutrient intake of U.S. children aged two to 11. The University of Minnesota researchers suggest that replacing children's current calorie-rich, nutrient-poor snacks with nutrient-dense snack foods, such as yogurts with low sugar content, could improve their nutrient intakes without causing overconsumption of calories and added sugar.

Dairy foods such as milk, cheese, and yogurt deliver a powerhouse of nutrients and unique health benefits in an appealing, affordable, and readily available way. For some super dairy snacks, try the fun, kid-inspired



recipes for the entire family found in the Super Dairy Snacking Flyer (www.milkmeansmore.org/dairy-producers/promotional-material/super-dairy-snacking-flyer). ■

Ortinau, L.C., et al. Effects of high-protein vs. high-fat snacks on appetite control, satiety, and eating initiation in healthy women. *Nutr. J.* 13(1): 97, 2014.

Hess, J., and J. Slavin. Snacking for a cause: nutritional insufficiencies and excesses of U.S. children, a critical review of food consumption patterns and macronutrient and micronutrient intake of U.S. children. *Nutrients* 6(11): 4750-4759, 2014.

Weight Management: Another Reason to Meet Dietary Calcium Recommendations, Review Suggests

Consuming an adequate intake of calcium not only has skeletal benefits, but it is associated with decreased risk of several disorders, such as hypertension, some cancers, insulin resistance, and metabolic syndrome. Reducing risk of obesity may be an additional potential benefit. For more than a decade, evidence has suggested that an inadequate intake of calcium is linked to increased body weight and/or body fat, although there is not a consensus. A recent review critically examined the scientific evidence related to the calcium-obesity hypothesis, with attention to factors that may contribute to the lack of consensus. Potential mechanisms by which dietary calcium may decrease body weight and/or body fat were also examined.

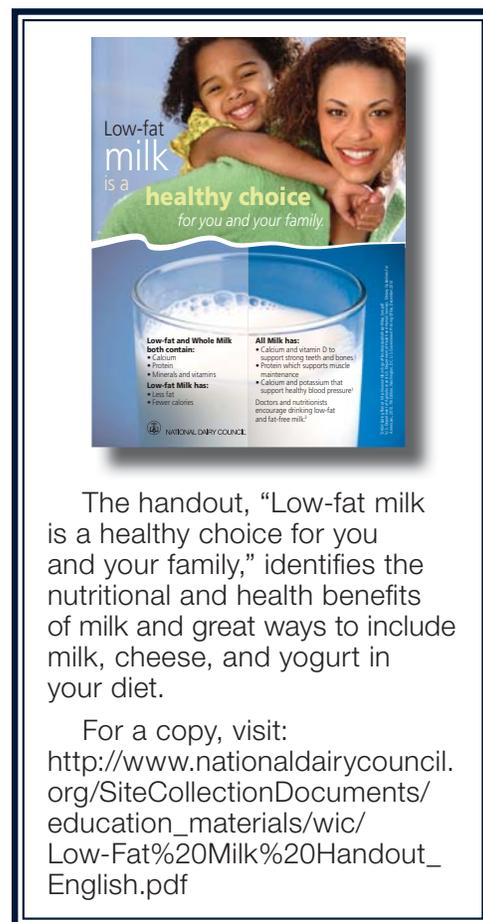
The researchers found that the wide variability in study designs contributed in part to the lack of consensus related to the calcium-obesity hypothesis. After carefully analyzing the evidence and taking into consideration the generally low intake of calcium and the public health impact of

obesity, the researchers concluded that calcium intake is one of several factors affecting regulation of body weight. "Even though the favorable role of calcium on body weight or body fat regulation may be most compelling under certain circumstances and conditions, increasing calcium intake in general is a sound recommendation for many reasons, particularly since adequate calcium may contribute to a decrease in the prevalence of obesity and/or its associated diseases," state the researchers.

Data from the USDA's *What We Eat in America, NHANES 2009-2010* indicate that milk and dairy foods (cheese, yogurt), mixed dishes (pizza, pasta, macaroni and cheese), and grains (e.g., breads, rolls) are the top three food sources of calcium. Milk and dairy foods contributed the most calcium at over one-third (37 percent) of total calcium intake. ■

Villarreal, P., et al. Calcium, obesity, and the role of the calcium-sensing receptor. *Nutr. Rev.* 72(10): 627-637, 2014.

Hoy, M.K., and J.D. Goldman. Calcium intake of the U.S. population: *What We Eat in America, NHANES 2009-2010*. Food Surveys Research Group Dietary Data Brief No. 13. September 2014. www.ars.usda.gov/Services/docs.htm?docid=19476



The handout, "Low-fat milk is a healthy choice for you and your family," identifies the nutritional and health benefits of milk and great ways to include milk, cheese, and yogurt in your diet.

For a copy, visit: http://www.nationaldairyCouncil.org/SiteCollectionDocuments/education_materials/wic/Low-Fat%20Milk%20Handout_English.pdf

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Family Meals Matter

Recent studies suggest the importance of family meals for children's and teens' health and nutrition.

Family meals matter when it comes to nutrition and health, suggest two new studies. Participating in family meals during adolescence was associated with reduced risk of becoming overweight or obese in young adulthood, according to a study published in the *Journal of Pediatrics*. This 10-year longitudinal study involved more than 2,200 subjects. The findings showed that even a few family meals a week during adolescence helped guard against later overweight/obesity compared to never participating in family meals as a teenager. The researchers point to a supportive environment, emotional connections, parental role modeling of healthful eating, and the absence of distractions such as watching TV, which are linked to obesity, as possible



explanations for the findings. Although this study does not prove a cause and effect relationship, the findings are important given the likelihood that obesity in the early years tracks into adulthood.

Another study examined the frequency of family dinners on the eating habits and behaviors of third graders. More frequent family dinners (\geq five days/week) compared to less frequent family dinners (\leq four days/week) were associated with better eating habits (e.g., regular meals, frequently

consuming breakfast, having breakfast with family members). Children who frequently participated in family dinners consumed healthy foods more often, including protein foods, dairy products, grains, fruits, and vegetables. ■

Berge, J.M., et al. The protective role of family meals for youth obesity: 10-year longitudinal associations. *J. Pediatrics* 2014, Sept. 27 [Epub ahead of print].

Lee, S.Y., et al. Eating habits and eating behaviors by family dinner frequency in the lower-grade elementary school students. *Nutr. Res. Pract.* 8(6): 679-687, 2014.