

Motivating Calcium Intake in Children

W-2003 (2008-2013)

Poor Bone Health Linked to Low Calcium Intake Among Adolescents



USDA Snap-Ed photo.

Osteoporosis, or thinning bones, is responsible for over 1.5 million fractures each year. More than half of all Americans over 50 years of age experience osteoporosis-related bone fractures, which can lead to long-term pain and impaired mobility. Health care costs associated with these fractures exceed \$20 billion every year.

Consuming calcium during adolescence—when the body is most able to absorb and retain calcium—helps build up bone mass and density, ensuring strong, healthy bones later in life. However, calcium consumption among adolescents nationwide is less than desirable. Girls and boys ages 9 to 18 consume only 60% to 80% of the recommended 1,300 milligrams (roughly three servings from the milk, yogurt, and cheese food group) per day.

Among adolescents, milk is increasingly replaced with soda, juices, and sports drinks. Some adolescents, particularly girls, may limit—or eliminate—milk in their diets because of the perception that dairy products are fattening. Family factors in, too. Parents’ knowledge about nutrition, parents’ consumption of milk, and availability of calcium-rich foods in the home also play a large role in how much calcium youth consume. Because eating habits formed early in life often continue throughout adulthood, programs intended to boost calcium intake must engage parents.

Multistate Research Project Motivates Parents and Kids to Consume Calcium

For the past five years, scientists have worked together on Multistate Research Project W-2003, conducting studies about the specific factors that influence calcium intake among children. With the data they have collected so far, researchers are designing messages, materials, and programs that motivate parents to boost the amount of calcium-rich foods and drinks their children consume. These materials and programs equip parents with the knowledge and inspiration to provide access to healthy, calcium-rich foods and to encourage and role model consuming them. Teaching children to consume calcium-rich foods at an early age will reduce their risk of costly and painful bone diseases later in life. Indeed, many of the messages and materials developed by W-2003 are tailored for groups that are most at risk of osteoporosis—women and families with Asian or Hispanic heritage. W-2003 researchers are also developing new techniques and tools for sharing these messages, so that they reach more parents and promote healthy families across the U.S.



USDA Snap-Ed photo.



Calcium-rich foods and drinks include cheese, tofu (and other soybean products), dark leafy greens like spinach, milk, and fortified orange juice.

A Closer Look

To understand what keeps parents from encouraging children to consume calcium-rich foods and what would motivate them to encourage this behavior, researchers conducted in-depth interviews with 200 parents of Asian, Hispanic, and non-Hispanic white adolescents in 12 states and distributed questionnaires to 600 parents and children across eight states. Researchers also gathered data from focus group discussions.

After analyzing the data, researchers found several factors that influenced calcium intake among adolescents and their parents. School, TV, and family members strongly influenced children's food choices. Parents who provided and drank milk regularly had greater knowledge of the health benefits of calcium, and their children consumed more calcium. These parents also tended to show stronger traditional and cultural values and reported eating family dinners together every night.

Data also pinpointed barriers to calcium consumption, including children's dislike of calcium-rich foods and preference for other beverages instead of milk. Parents who did not provide or drink milk regularly tended to have little time to be concerned about their children's diets or make balanced meals in addition to limited financial resources and little access to calcium-rich foods. Other barriers included traditional cultural food patterns that do not include many or any dairy products.

Using this data, researchers worked with a marketing group to develop messages targeted at different parenting practices. They crafted two sets of messages—one fact-based and one emotion-based—intended to motivate parents to promote calcium consumption in their families. Marketing and graphic design experts at Washington State University and The Ohio State University created posters with these tag lines and accompanying graphics. After revising the posters based on initial feedback from parents, researchers initiated a survey of a larger group of Asian and Hispanic parents to gauge the effectiveness of the motivational messages.

Want to know more?

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Participating Institutions & Researchers:

University of Arizona, Scottie Misner, Nobuko Kay Hongu
 *University of Arkansas, Latha Devareddy
 Brigham Young University, Rickelle Richards, Paul Johnston
 University of California, Davis, Christine Bruhn
 University of Hawaii, Jinan Banna, Corilee Watters
 University of Minnesota, Marla Reicks
 *North Carolina State University, Suzie Goodell
 Ohio State University, Carolyn Gunther
 Oregon State University, Mary Cluskey, Deborah Maddy (Administrative Advisor)
 *Purdue University, Carol J. Boushey
 Utah Cooperative Extension, Siew Sun Wong (now at Oregon State University)
 *Washington State University, Miriam Edlefsen
 *No longer a member of the W-2003 team

This Impact Summary was compiled and designed by Sara Delheimer.



Super families share healthy meals

Super families share healthy meals



You lead the way to healthy bones

Leave no missing pieces



These posters designed by W-2003 use specific phrases and images to motivate Asian and Hispanic parents to provide calcium-rich foods and drinks for their children and to encourage parenting practices like eating together and role-modeling good eating habits.