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Health and the Environment

Experiential children's nutrition education: Growing strong bodies and healthy minds



Stacey Antine*, Amy Morel L'Horset, Paige Heiden, Gabriella Salazar

EXPLORE's "Health and the Environment" column seeks to highlight areas of intersection between environmental issues and integrative health and healing.

In today's fast food, sedentary and high screen time culture, health professionals struggle to find innovative ways to reverse the trends of obesity, diabetes, heart disease and mental health conditions associated with this lifestyle. A common sense approach to preventing chronic diseases is by engaging in positive health behaviors. However, less than 3% of Americans live a healthy lifestyle.¹ An effective healthy-lifestyle education approach cultivates positive behavior changes among children and families through in-person and online programs.

The hands-on experience empowers children and families to live strong, energetic lives by learning about good nutrition through cooking, organic gardening, exercise, and caring for the environment. The core curricula delivered by HealthBarn® USA are designed around seven healthy habits explored here in detail (1) Eat Breakfast; (2) Exercise; (3) Eat Fruits and Vegetables; (4) Share a Family Meal; (5) Recycle; (6) Brush and Floss Teeth; (7) Get a Good Night's Sleep.² These healthy habits can contribute to long-term health if implemented by children with the support of their parent(s)/caregiver(s) and family members. The greatest barriers to implementation include excessive after-school activities, working parents' lack of time, access to fresh foods, lack of skills, minimal home cooking and peer pressure.

Eat breakfast & share family meals

Multicomponent programs that include gardening, cooking, taste testing, and nutrition education can increase healthy food behaviors by increasing children's willingness to try new foods and consume more nutritious foods.³ These new habits can also have a positive effect on family meals prepared at home.

The proprietary programs empower children as young as three years old to chop (with age-appropriate safety knives), mix, stir, read a recipe, learn proper knife skills and food safety precautions, as well as plating the finished culinary creations with pride. The programs have been highly effective in engaging children in the recipe process and participation in family meals. Registered dietitians create the delicious, nutritious recipes which include the serving sizes and Nutrition Facts. During the cook or bake time, interactive nutrition lessons such as the *Supermarket Spy Kids* game, *Whole Grains are Great* game and *Bone Builders Scavenger Hunt* are facilitated by trained nutrition educators.² All recipes are made available to take

home to encourage family involvement for breakfast, snack and dinners. Online baking and cooking classes empower each child to lead the recipe along with the instructor, with parent/caregiver support when needed. The children are encouraged to gather their ingredients and equipment from the home kitchen prior to starting the online class to demonstrate independence and confidence.

Exercise

A healthy diet combined with physical activity (PA) can help reduce the risk of obesity in children and adolescents.⁴ Research has shown that PA decreased in children, ages 6–11, and sedentary behavior (SB) in earlier years than previously thought, identifying this period as a crucial time for intervention.⁵ While children and adolescents often believe that participating in sports is the only way to exercise, there are many options to engage in physical activity for strong bodies and healthy minds. Team-orientated activities, active play, gardening, yoga and relaxation, as well as nature exploration such as hikes and fishing, effectively engage children in movement, outdoor play, and socialization, while also reducing their interest in screen time and gaming. The programs designate one third of instruction time for exercise.

Eat fruits and vegetables

Children growing their own food has been shown to increase their knowledge about and willingness to try new fruits and vegetables, and their preferences for consuming fruits and vegetables over other traditional snacks.⁴ Encouraging children and families to grow their own food from seed to fruit is rewarding, exciting and an effective tool to increase daily fruit and vegetable consumption. Selecting seasonal recipes, growing the foods needed for the recipes and that the children like to eat, all facilitate successful engagement. Children experience first-hand where their food comes from and why these foods are important for their bodies.

The garden-to-table process begins with the children tending to the organic vegetable garden, planting from seed or seedling and caring for the perennial plants, such as asparagus, strawberries, and herbs. Composting helps ensure an abundant source of nutrient rich soil for their successful yields. The children plant, harvest, prepare and cook their bounty in activity-based recipes for all meal occasions. Children are provided clean buckets of water to harvest carrots, radishes, and berries to rinse and sample. Nothing tastes better than freshly picked produce.

* Corresponding author.

E-mail address: stacey@healthbarnusa.com (S. Antine).

Organic gardening is not only beneficial to the environment; it also provides better nutrition for consumers. Organic gardening increases organism abundance 40–50% compared to conventional farming, which relies on herbicides and pesticides that are harmful to native species.⁶ Additionally, organic crops have a higher prevalence of antioxidant activity than conventional crops.⁷ Antioxidants can help boost immunity to reduce risk of cancer, cardiovascular disease, and other chronic diseases. Organic crops also have lower levels of cadmium, which is a toxic metal found in conventional crops.⁷

Brush and floss teeth and get a good night's sleep

Tangible healthy habits reap big rewards for health and well-being. Dental caries are the most common chronic childhood disease.⁸ To prevent dental caries, it is important to instill healthy brushing and flossing habits early in children as well as consumption of balanced nutrition and low sugar consumption. The mouth is a gateway to health, as many signs and symptoms of chronic disease present themselves first in gums and teeth erosion. Children can relate to the immediate link between eating too much candy or sugary foods and getting cavities. While children may not give up candy, by offering delicious and nutritious recipes and snack ideas that they enjoy, these new choices tend to replace less healthy choices. Recipes such as *Fudgy Brownie Bites*, *Edible Cookie Dough*, *Chocolate Chickpea Chip-pers* and *Homemade Chocolate Milk* and the *Rainbow Swirly Smoothie* have replaced store-bought equivalents with high concentrations of added sugars and artificial ingredients.²

Children need a good night's sleep to help grow their bodies and minds. Children ages 6–12 should be getting about 9–12 hrs. of sleep each night.⁹ Without sleep, children's brains cannot process and store information learned that day, so a lack of sleep may negatively affect their education. Also, during the sleep cycle, metabolism is at its peak, suggesting sleep schedules and implications of timing for obesity appear to begin during early childhood.¹⁰ Nourishing bed-time routines help children release their worries through reading, stretching, and bath time rather than screen time and gaming. Harvesting chamomile flowers, lemon verbena and lavender from the garden to dry and serve as herbal teas at bed time is another way to integrate healthy bedtime routines for children and families in the programming.

Recycling

Food recycling, such as composting, is an effective way to create an awareness among children and adults in direct connection to the foods they eat and nature's food cycle. The compost pile is the most exciting place in the garden, as children of all ages dig for worms and explore food scraps that have not broken down yet. They use their muscles to dig and lift soil to cover the scraps in order to oxygenate the organic matter. Children experience first-hand that by consuming non-compostable items such as highly processed, artificial snack food, they break the cycle with nature. So, if their diets are filled with these foods that recycle into junk soil, they not only suffer from poor eating habits, but so does nature. This concept works in encouraging healthy food choices.

Conclusion

From garden-to-table, children have the opportunity to grow their own food, become more adventurous in the kitchen, reduce screen time by being active and create nutritious and delicious recipes that can help boost immunity and overall well-being. The connection is made between human health and environmental health through gardening, composting, cooking and nutrition education. By acquiring life skills, children become competent in their own health, enabling them to take personal responsibility for their health and the well-being of the environment. A strong understanding and appreciation for growing produce is gained, in addition to composting, cooking and consuming fruits and vegetables. Sprouting the seeds of good nutrition early in life and creating healthy habits helps families to live a healthy lifestyle that boosts the immune system as well as minimizes their risk for chronic disease.

This column is edited by **Erin Idhe, PhD, MA**, Project Manager of Environmental Research at The Deirdre Imus Environmental Health Center®, part of Hackensack University Medical Center in NJ.

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Stacey Antine, MS, RDN, founder, HealthBarn USA and author, *Appetite for Life*, is a registered dietitian who holds a Master's of Science in Food, Nutrition and Dietetics from New York University. Expanding her commitment to help families eat healthier, she started HealthBarn Foundation and its first project *Healing Meals*, a nutritious food gifting program for families with ill children and seniors in need.

Dr. Amy Morel L'Horset is faculty in the Department of Clinical and Preventive Nutrition Sciences, Rutgers Biomedical and Health Sciences - School of Health Professions, Newark, NJ. She is a Registered Dietitian and Certified Diabetes Care and Education Specialist.

Paige Heiden, BS, Rutgers Entry-Level Master of Science in Clinical Nutrition candidate.

Gabriella Salazar, BS, Rutgers Entry-Level Master of Science in Clinical Nutrition candidate.