Nutrition and Fitness for All Young Children

Teresa A. Byington, Anne R. Lindsay, and Madeleine Sigman-Grant



Preschool

Healthy Choices Start Early

"Healthy, Happy, Active, Fit: All 4 Kids; Eat Smart, Don't Sit!" the preschoolers chant loudly. Miss Laura asks, "What does *healthy* mean to you?" "Be strong," calls out Ben. "Eat apples," says Mia. "Yes, we eat healthy foods such as apples and other fruits and vegetables because they help keep our hearts, muscles, and bones strong," replies Miss Laura. "We have been learning how important it is to eat smart by eating healthy foods, and how important it is to be active. What are some ways you like to move your body and be active?" "Swimming," says Jada. "Dancing," calls out Ethan. "Good idea, Ethan. Let's all dance."

N THE UNITED STATES TODAY, YOUNG CHILdren live in an obesogenic environment where relatively low-cost food is readily available and daily lifestyles promote sedentary behaviors, resulting in the increasing incidence of overweight (see "What Is an Obesogenic Environment?") (Birch & Anzman 2010; Harrison et al. 2011). Obesity is a complex issue resulting from many different factors, including genetics, cultural preferences, parental behaviors, food consumption, media exposure, and activity level (Harrison et al. 2011). Almost onethird of US children are overweight or at risk for being overweight, which increases their probability of developing chronic illnesses such as high blood pressure, high cholesterol, and type 2 diabetes (CDC 2012). Although a recent survey suggests a leveling off of obesity incidence (Ogden et al. 2014), data from the National Health

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and Nutrition Examination Survey, 1976–1980 and 2009–2010 (www.cdc. gov/nchs/nhanes.htm), shows that in the past, the prevalence of obesity increased for children ages 2 to 5 years from 5 percent to 12.1 percent, as measured by heights and weights and converted to body mass index (BMI) (Ogden et al. 2012). Obese children are more likely to have health concerns and become obese adults (CDC 2012). The Institute of Medicine (IOM) and others recommend that overweight preven-

What Is an Obesogenic Environment?

n obesogenic environment is a society that promotes overeating and supports sedentary behaviors. It (a) provides easy access to inexpensive, high-energy, calorie-dense foods; (b) reduces energy demands in daily life activities; (c) increases sedentary leisure time; (d) limits opportunities for recreational physical activity; and (e) markets products through messages that promote eating and sedentary behaviors (Birch & Anzman 2010; Scerri & Savona-Ventura 2011).

tion educational efforts start as early in life as possible (Gooze et al. 2010; IOM 2012).

In the preschool years children lay the foundation for future eating and physical activity behaviors (Lanigan 2011). Although families are primarily responsible for preschoolers' food choices and physical activity habits, almost three-fourths of preschool-age children spend a large part of their day in care outside the home (Children's Defense Fund 2011). Early care and education programs are important settings for obesity prevention efforts (Larson et al. 2011; Sigman-Grant et al. 2014). Thus, teachers and families often share the responsibility for teaching children about healthy eating and fitness practices during these important developmental years (Kaphingst & Story 2009).

The All 4 Kids program

To address childhood obesity, a team of faculty in early childhood education, exercise physiology/physical activity, and nutrition at the University of Nevada, Reno (Cooperative Extension), developed All 4 Kids, a program focusing on healthy lifestyle choices.

All 4 Kids was developed in 2008. The eight-week program (meets three times a week) targets preschoolers, their families, and preschool teachers in early childhood education centers. The program is based on the assumption that many children live in an obesogenic environment, and that direct teaching for preschool-age children and engagement of families and teachers can provide information about healthy eating and active living.

All 4 Kids consists of 21 preschool lessons and three family events. The program is designed to promote healthy

habits while offering learning experiences that address Nevada State prekindergarten standards in early language and literacy, math, science, social studies/social-emotional development, creative arts, and physical development/ health (Nevada Department of Education 2010).

Rather than simply increasing active time, the program uses dance as the primary way to engage children in physical activity. Original songs from three popular genres country rock, hip-hop, and Latin music—feature lyrics about healthy snack choices, physical activity, and acceptance of self and others at any size or shape. Preschoolers learn dance patterns with specific skills, such as crossing the midline, hopping on one foot, and balancing, to promote preschoolers' fitness and physical skills development.

Teachers and families often share the responsibility for teaching children about healthy eating and fitness practices.

There are three main themes: Be Active, Eat Smart, and Live Healthy at Any Size. Be Active encompasses physical activity, energy balance, spatial and directional awareness, body control, strength, endurance, and healthy hearts, muscles, and bones. Eat Smart features nutrition concepts for healthy snack choices, hunger and fullness cues, and food categorization—GO and WHOA foods (NHLBI 2013). Live Healthy at Any Size acknowledges different body types and reinforces the message that everyone can eat healthy and be active regardless of their shape or size:

About the Authors

Teresa A. Byington, PhD, is an associate professor and early childhood education specialist at Cooperative Extension at the University of Nevada, Reno, located in Las Vegas. Her teaching and research focuses on the professional development (coaching and training) of early childhood professionals. byingtont@unce.unr.edu Anne R. Lindsay, MS, ACSM-HFS, is an associate professor and exercise physiologist at Cooperative Extension at the University of Nevada, Reno. She has served on national and local committees related to early childhood and conducted researchbased programming, curriculum, and media projects for preschoolers. lindsaya@unce.unr.edu **Madeleine Sigman-Grant**, PhD, RD, is the MCH-Nutrition Cooperative Extension specialist for the University of Nevada, Reno. For more than 30 years Madeleine has educated caregivers in strategies to teach nutrition to young children.

Authors' Note: To access the All 4 Kids curriculum online, please get in touch with the authors.



"I am unique! Kids come in all shapes and sizes, and all kids can eat healthy and be active!"

Be Active

"Our favorite thing to do in All 4 Kids," says Miss Laura, "is to dance. When we line dance to country music we use our heels; when we hip-hop we like to shrug our shoulders; and when we salsa we move our hips! Dancing is a great way to be active and use lots of energy. Today we will salsa to 'Ven conmigo.'" As the song plays, the children sway left and then sway right, waving their scarves up and down.

The children sing along with the music: "Though we're different, we're all unique. Let's take care of our bodies and be proud. *Baile* (dance)! No matter what you look like. *Cante* (sing)! Hey, hey, hey, hey!" The children salsa step forward together, and then step back together. "Ven conmigo, Ven conmigo! Baile, amigo, baile!" The children slowly spin on one foot as they wave their scarves high above their heads.

The National Association for Sport and Physical Education's (NASPE) physical activity guidelines for preschool-age children state that children ages 3 to 5 years should engage daily in 60 minutes of structured physical activity (adult-organized play) and at least 60 minutes of unstructured physical activity (child directed) (NASPE 2009). These physical activities should be developmentally

Be Active—Teaching Tips

- Incorporate music into movement activities. Music may be one of the most critical pieces to inspire children to be physically active. Choose music styles that are culturally diverse and appeal to both children and adults. Encourage participation beyond the classroom and into the child's home involving the whole family. Be sure to choose songs with appropriate lyrics for children. Songs should inspire children to move, have a strong beat, and be catchy, predictable, repetitive, and easy to follow.
- Make active play intentional. Design daily, purposeful physical activity experiences based on specific goals. For example, have children play hopscotch to practice hopping on one foot or freeze games to practice balance and body control.
- Use repetition. Children learn through repetition. For young children, short bursts of 10 to 15 minutes of repetitive physical activity are recommended over long, extended sessions (Bailey et al. 1995; NASPE 2009). Each day, review with the children the skills they learned the day before, and then teach new skills. Children can practice the new skills during daily transitions (e.g., skipping while going outside to play).
- Incorporate gross motor skills into the daily routine. Children often spend much of their day doing activities that develop fine motor skills; therefore, it is important to develop a structured plan to incorporate gross motor skills. During brief intervals throughout the day, invite children to practice large motor skills—both locomotor (e.g., running, hopping, skipping, walking) and nonlocomotor (e.g., spinning, balancing, crossing your feet)—through repeated reinforcement of these movements. For example, have the children hop while playing Simon Says and again as a transition activity as they go outside.
- Involve the whole body. Plan movements that engage children's entire bodies, not just the hands and arms. A teacher might say, "Pretend to be a snake. Put your arms and elbows in front of you and move your whole body, wriggling like a snake."
- Use visual imagery. Visualization offers children numerous opportunities to use their imaginations as they pretend to sway like a tree in the wind, jump like a kangaroo, or balance on one leg like a flamingo. This visual imagery technique helps children learn dance skills more quickly and increases attention, engagement, and future recall (Sacha & Russ 2006).

appropriate and happen in short bursts of time (e.g., 10 minutes) rather than all at once (Bailey et al. 1995). Children should not be sedentary for more than 60 minutes at a time, unless they are napping (NASPE 2009). The guidelines are referenced in NAEYC publications (Sanders 2002; Copple & Bredekamp 2009).

Categorization of foods: GO and WHOA

As part of the National Heart, Lung, and Blood Institute's initiative called We Can! Ways to Enhance Children's Activity and Nutrition, foods are grouped in three categories: GO, SLOW, and WHOA (www.nhlbi.nih.gov/health/public/ heart/obesity/wecan/eat-right/choosing-foods.htm). (See "Eat Smart—Teaching Tips," p. 18.) To simplify the concepts for preschool children, the All 4 Kids program focuses only

Intentional teacherled activities, both indoors and outdoors, are citical in promoting physical activity in young children.

Although increasing outdoor playtime provides many opportunities for physical activity, studies show that increased playtime alone may not be sufficient to increase children's activity levels (Cardon & De Bourdeaudhuij 2008; Brown et al. 2009). More playing time does not necessarily result in more moderate to vigorous physical activity (Alhassan, Sirard, & Robinson 2007). Therefore, some intentional teacherled activities, both indoors and outdoors, are critical in promoting physical activity in young children (Brown et al. 2009; Epstein 2014). (See "Be Active-Teaching Tips.")

Eat Smart

As part of the Eat Smart lesson. Miss Laura places a bowl of sliced mangoes on the table. She asks the children. "What food is this?" Benjamin says, "Peach slices." Maria says, "No, they are mangoes; we eat them all the time in our house!" "That's right, Maria, they are mangoes. Are mangoes a GO or WHOA snack?" All of the children shout out GO. "And why are they a GO snack?" asks Miss Laura. "Because they help keep our hearts, muscles, and bones strong," the children reply. "That's right, let's eat some healthy food." The children enjoy eating the mango slices.



on GO and WHOA foods, using the following definitions:

- GO foods are foods that can be eaten every day because they help keep our hearts, muscles, and bones strong.
- WHOA foods are foods that should be eaten only once in a while because they do not help keep our hearts, muscles, and bones strong.

Defining healthy foods

Preschoolers, who are in the concrete learning stage, have a difficult time conceptualizing abstract terms. This is especially true for describing healthy foods. To children, if a food tastes good, the food is good for them; and if a food tastes bad, it is not good for them. Describing a healthy food as being good for you doesn't make sense to the young child since the attribute *good* refers to taste. After attempting several different approaches, the program creators selected the following intentional language to help preschoolers understand the concepts of healthy and unhealthy foods:

- *Healthy foods* are foods that help keep my heart, my muscles, and my bones strong.
- Unhealthy foods are foods that do not help keep my heart, my muscles, and my bones strong.

This approach also emphasizes those foods that are GO (i.e., healthy) or WHOA (i.e., unhealthy).

Eat Smart—Teaching Tips

- Hear, see, and move. Children benefit from receiving auditory, visual, and kinesthetic cues. To address important concepts, teachers can have children hear a phrase, such as "GO snacks"; see pictures of GO snacks, such as bananas; and move by raising their arms or jumping as they shout, "GO bananas!"
- Explore using the senses. Teachers can introduce new fruits and vegetables (such as kiwi and kale) and let the children explore them using all five senses. Such experiences help children internalize the concepts being presented. For example, as preschoolers pass around a kiwi, ask them to touch the outside and describe how it feels. Have them shake the kiwi and ask them if they hear any sounds. Show them a cut kiwi and have them share what it looks like inside. Have them describe the smell of the cut kiwi. Finally, distribute small slices of kiwi for tasting, and ask if it is soft or crunchy, sweet or tart.
- Add books about fruits and vegetables to the classroom library. Children especially enjoy looking at books when they contain pictures of familiar items. Teachers can read aloud a children's book about food, and then engage children in a discussion about fruits and vegetables they enjoy eating or would like to try in the future.



Hunger and fullness cues

To help preschoolers visualize body hunger cues and feelings of fullness, each child receives a *hungry meter*—a visual to indicate hunger and fullness. Constructed with laminated cardstock and a free-moving pointer, the meter displays a sad face (hungry) and a smiley face (full). The preschoolers and teacher experiment with the hungry meters in the classroom, and then the preschoolers take them home to use.

Live Healthy at Any Size

Miss Laura asks two children to come forward and says, "What is the same about Abby and Joey?" "They both have two eyes and a mouth." "That is right," says Miss Laura. "And how are they different?" "They are different sizes; Joey is tall and Abby is short." "How does that make Joey unique?" "Joey can reach things on the high shelves." "How does that make Abby unique?" "Abby can crawl into small places." "Yes," says Miss Laura. "We need friends who are different shapes and sizes to help us in our classroom."

Eat healthy and play together at any body shape or size

Children are aware of not only their own body sizes but the sizes of those around them. A majority of preschoolers prefer one body size—thin—over all others (Musher-Eizenman et al. 2004). It is unclear, however, whether children perceive overweight children as unlikeable, a threat (i.e., a bully), or something else. Regardless of the reason, because such biases exist at a very early age, it is essential to teach children that no matter what their body shape or size, all children can eat healthy and be active.

Children come in all shapes and sizes

Preschoolers can grasp the concept that they are unique, which means, "No one else is exactly like me." Musher-Eizenman and colleagues (2004) suggest that adults have a responsibility to educate children about diversity of body size in the same way children are taught acceptance of others, and that programs should emphasize an overweight child's positive attributes (e.g., he is good at an activity) rather than his weight.

It's important to teach children acceptance of others, which necessitates embracing each other's differences, including body shape and size.

Teaching children to respect others who are a different shape or size simply by finding nice things to say does not always lead to acceptance. Children may use polite words to talk about overweight children but still not accept them or perceive them as friends. It's important to teach children acceptance of others, which necessitates embracing each other's differences, including body shape and size. (See "Live Healthy at Any Size—Teaching Tips," p. 20.) Teachers also need to help children feel pride in their bodies. Preschoolers can engage in social opportunities to learn about acceptance through stories, play scenarios, and interactive games.

All 4 Kids family events

Without family involvement, children are less apt to master physical movements or put into practice the knowledge they have acquired. Therefore, after completion of each unit, families are invited to come to the program to learn about the concepts the preschoolers are learning. Together, children and their families play games and taste foods that reflect the messages from the lessons. Family members watch the children dance and then join in. Families take home materials describing healthy eating and active living.

Teaching health concepts benefits children and their families

The All 4 Kids program helps preschoolers and their families engage in healthy eating and physical activity habits. Parents have reported how much their children enjoy practicing the dances they learn in the program. One mother said that her children tell her to turn on the music so that they can dance and be active. Another parent stated that her child's desire to be active helped the whole family be more active.

A father said that he no longer requires his child to take one more bite after she tells him she is full. The family now uses the hungry meter at dinner. Every few bites the parents ask her how full she feels, and then they move the meter from hungry toward full. The child stops eating when she is full. Another mother with two daughters in

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the program said that she plays restaurant with the girls. She shows them a variety of food cards (from the program), and together they create a menu that includes GO foods. One daughter told her mother she wanted to eat a mango for dinner because it would help her be healthy. The other daughter requested jicama. During a shopping trip the daughter chose the largest jicama because it would make her "the strongest," demonstrating her understanding that eating more of a healthy food helps keep her strong.

The program also empowers children to embrace their uniqueness. A mother of a very small preschool girl said that her daughter was constantly teased about her size by her cousins. After participating in a Live Healthy at Any Size lesson, when her cousins next teased her, the child put her hands on her hips and told them, "I am unique. There is no one else in the world exactly like me. Stop teasing me." The cousins were stunned, and the teasing stopped. The child was proud of herself, and the mother was delighted that her daughter had the language to express her feelings.

Summary

It is important for preschool children, teachers, and families to grasp specific concepts and skills related to health, nutrition, physical activity, and acceptance of physical differences. The All 4 Kids program is a unique approach to being active, eating smart, and living healthy at any size. The use of music and dance strengthens children's understanding of themselves, each other, and the world around them.

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Live Healthy at Any Size— Teaching Tips

- Teach children about same and different and being unique. Demonstrate ways that children are the same and different—for example, color of clothing, eyes, skin, or hair. Guide discussions about children's similarities and differences relative to size (tall, short) and shape (thin, round). Encourage children to talk about ways they—and others—are unique and no one else is exactly like them. Conversations can center on hobbies, favorite snacks or even ways children like to move.
- Connect foods and physical activity to health. Children can make the connection that eating healthy foods and being active will help them be healthy and look and feel better. Teachers can scaffold children's learning. For example, as a child learns that healthy GO snacks help keep the heart, muscles, and bones strong, the child makes the connection between eating GO snacks and being strong.
- Use empathy. Give a voice to children who are bigger than other children. Incorporate dolls of various shapes and sizes, book characters, puppets, and other figures in the classroom, and encourage all children to speak about their own size, shape, and other unique qualities. For example, the teacher could hold up two dolls and compare their shapes and sizes and talk about how each doll is unique.



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