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Physical Activity During Early Childhood: The Importance of Parental Modeling



Abstract: *Increasing physical activity (PA) is a critical issue in improving overall health. Prior attempts by public health campaigns to promote PA through health-focused messaging have faced challenges. As PA and sedentary behaviors are developed during the early childhood period (ages 0 to 5 years), this stage represents a unique opportunity for clinicians to encourage activity at the family level. Clinicians should discuss the holistic benefits of PA, including the development of social skills and relationships, motor skills that could be applicable to sports later in life, and cognitive skills that could translate to academic achievements in school. For PA to occur in children, parents should also be engaged in and model the PA behaviors, increasing the likelihood of young children learning to be physically active.*

Keywords: physical activity; early childhood; prevention; obesity

From a public health perspective, increasing physical activity (PA) is one of the most important behaviors for improving overall health.

PA is clearly linked to reductions in risk for cardiovascular disease,¹ hypertension,² and type 2 diabetes¹ as well as improved bone health,³ mood,⁴ and sleep.⁵ However, very few adults engage in PA on a regular basis.⁶ Low amounts of PA have a direct impact on adults,⁷ and likely has an indirect impact on their

lifestyle for their children in early childhood. A clear understanding of the “other” more immediate benefits of PA (eg, improved social relationships, improved motor skills, and cognitive development) may help parents see the importance of them and their children engaging in this behavior. Early

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children because parent and child activity levels are so closely related.⁸ Increasing PA levels of children, may require parents to increase their PA levels as well.

As discussed in this issue by Coe,⁹ levels of PA can track across the lifespan, highlighting the importance of establishing PA behaviors during early childhood. The health consequences of a sedentary lifestyle are numerous, but they also take a number of years to emerge, thus making it difficult to motivate parents to model an active

childhood is a time when parents are more willing to support healthy behaviors and receive parenting information,¹⁰ and this provides clinicians with an excellent opportunity to encourage parents to engage in PA with their children.

Social Development

During early childhood, participating in active play provides an opportunity for bonding between children and their

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caregivers or peers. When a parent and child interact through play, there are opportunities created to learn to communicate more effectively, notably for children who may have difficulties communicating their needs.¹¹ When fathers participated in a program that involved rough-and-tumble play with their children, the fathers felt that the play enhanced their relationships and their children's development.¹² Fathers felt that defeating the child occasionally was beneficial for the children's psychological and social development.¹² Time spent in outdoor spaces is also associated with children's PA levels.⁸ Parents can utilize available resources, such as neighborhood sidewalks and community parks to encourage PA.

Among their peers, children can build friendships, learn to share, resolve conflicts, and develop self-advocacy and leadership skills through PA.¹¹ Peer acceptance is influenced by the child's gender and the playmate's gender during physically active play, such as rough-and-tumble play and exercise play.¹³ Playgroups provide children the opportunity for regular play. Introducing unstructured materials into the play environment can bring together children who have not previously interacted, including children who were previously left out of playtime activities.¹⁴ Natural spaces and unstructured playgrounds offer more opportunities for creative and fantasy play, teamwork to build the play space, and socialization not focused on physical abilities.¹⁴ As children mature into adolescence, a positive association for PA among peers within a friendship group emerges.¹⁵ Therefore, building a friend group that is centered on PA could be beneficial as the children mature.

Motor Skills Development

Fundamental sport skills, such as throwing, kicking, and striking, are not innately learned like other gross motor skills, such as walking. Movement skills are divided into locomotor, stability,

and manipulative skills as well as large and small motor skills. Active/free play without adult guidance is not enough to develop certain motor skills beyond the most basic level.¹⁶ Typical performance levels for 3- to 5-year-old children for locomotor and manipulative skills are provided in *Active Start*.¹⁷ Multiple opportunities should be provided for young children to receive age-appropriate instruction about specific motor skills and to practice those skills, which leads to competency.^{18,19} Competency is proposed as the primary mechanism to promote engagement in PA.²⁰ If children struggle to perform the necessary motor skills to achieve an activity goal, they may become uninterested in PA, thus creating a lifetime barrier to PA.²⁰ During these guided activity sessions, young children will learn to be comfortable with the uncomfortable sensations associated with PA, such as increased heart rate, muscle contractions, and perspiration.¹⁹ Without the development of these fundamental motor skills, ability to effectively participate in team sports later in childhood is greatly diminished.¹⁷ At this stage, creating an environment focused on mastery is likely to be more beneficial than one focused on winning.^{16,21}

Cognitive Development

Preliminary data suggest that regular PA in early childhood influences cognitive development.²² PA can promote a sense of accomplishment, a positive self-esteem, and understanding of the concepts of shape, spatial awareness, and directionality.¹⁸ The domains of cognitive development include language, memory, spatial awareness, and executive function. When duration/frequency of PA was increased, significant beneficial outcomes in executive function and language were observed.²³ It is possible that PA affects executive functioning and language through self-regulation or behavioral control.²³ Better self-regulation associated

with PA may translate into better scores on reading and math assessments.²⁴ Also, neural networks are increased when learning by doing.^{18,25} For example, the potential for improved literacy is improved when words are taught in context with movement activities.¹⁸ When preschoolers increased their moderate to vigorous PA, improvements in literacy and phonological awareness—for example, rhyming and alliteration—were observed compared with controls who did not undergo the PA intervention.²⁶

The Importance of Modeling

“Practice what you preach” is an old adage and incredibly pertinent to the issue of young children learning healthy behaviors. It is not enough for the caregivers of children to simply relay the importance of a behavior, but instead, it is critical that caregivers are actively engaging in the behavior, especially when in the presence of children. From a nutrition perspective, trying to get a child to eat vegetables in a household in which no one eats vegetables is a losing battle. The behavioral underpinning of this is modeling.^{27,28} One of the first studies to show the impact of adults' modeling behavior to children was done with violence.²⁹ In the study, a Bobo Doll toy was placed in a room with an adult who would model aggressive or nonaggressive behaviors in front of children. After observing the adult attacking the doll, the children were more likely to attack the doll when they were frustrated at a later time. Since then, a number of studies have shown that parents serve as powerful role models to children in the adoption of positive health behaviors as well.³⁰⁻³² For example, preschoolers are more likely to try a novel food when they see their parent or caregiver consume the novel food.³³ In addition, children are more likely to participate in physical activities when they perceive their parents as being physically active.^{34,35}

Conclusions

The benefits of PA extend beyond distal physical health benefits, which are numerous, and include other more proximal holistic benefits, such as social development, motor skill development, and cognitive development. Behaviors and attitudes established during early childhood can influence behaviors over the lifespan; therefore, clinicians should encourage parents to become more physically active and to include their children in PA. An environment in which adults model these behaviors is essential to increase the likelihood that children will engage in healthy behaviors.

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Informed Consent

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Trial Registration

Not applicable, because this article does not contain any clinical trials. **AJLM**

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