

# The Importance of LANGUAGE NUTRITION

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**T**here is a profound predictor of health and wellbeing that can be determined by three years of age. That predictor is language.

Babies need food to sustain them and help them grow healthy and strong. Similarly, language is nutrition for the brain. The brains of very young children, even before they are born, are stimulated by hearing words. Early childhood language exposure sets the stage for cognitive ability, literacy, school readiness and ultimately educational achievement. The quality and quantity of words that infants and children hear will enhance their vocabulary and



impact their school performance, IQ, and life trajectory.<sup>1</sup>

There is a huge increase – by about a third - in a baby’s brain size that occurs between weeks 37 and 39 in the womb. And after the baby is born, the brain continues to grow rapidly so that by the age of three, neural circuitry that provides the foundation for long-term brain development has been established. If the circuits are used repeatedly, they are reinforced and strengthened. If they are not used, they shrink and disappear.<sup>2</sup>

Early childhood is of critical importance because a child’s vocabulary at the age of three is a key predictor of school readiness at kindergarten and third grade reading comprehension. In turn, reading proficiency at third grade is a powerful predictor of subsequent academic success.<sup>3</sup> Third grade is also a time when children shift from learning how to read to reading to learn.<sup>1,3</sup> If they cannot read at grade level by third grade, they often fall further and further behind.

The problem in Georgia is that almost 70 percent of our children don’t read at grade level by third grade.<sup>4</sup>

America’s Health Rankings 2015<sup>5</sup> puts Georgia near the bottom, 40 out of 50, in a state-by state ranking of the nation’s health. The rankings include a comprehensive set of behaviors, community and environmental conditions, policies and clinical care data. Georgia ranks 42 for children in poverty, 47 for high school graduation rate, 46 for lack of health insurance and 45 for unemployment.

A study done in 1995 by Hart and Risley at the University of Kansas looked at 42 families from several different socioeconomic backgrounds for the way parents and children interacted daily and the effect it had on language and vocabulary development. The researchers noted what parents and children talked about, how much the children were praised and whether conversations were positive or negative. The study revealed significant

disparities between the number of words spoken in high-income families and families on welfare. Children from low-income families heard approximately 600 words an hour compared to 2000 words an hour heard by children in the higher income families. By the age of three years, that’s a 30 million word gap.<sup>3</sup>

This study wasn’t about race, it wasn’t about gender, all of the children were well-cared for - the critical component was language. Whether it is spoken word or language

built on symbols and gestures such as sign language, language is language. Christine Yoshinaga-Itano, PhD, is a professor of Speech, Language and Cognitive Science at the University of Colorado Boulder and says, “Vocabulary development is the most significant predictor of literacy for children who are deaf or hard of hearing – just as it is for children with normal hearing.”

Another critical component of language is the interactions children have with their family or care-takers. The back and forth interactions between a parent talking to their baby and their baby “talking” back through babbles and coos are known as serve and return interactions and are critical to brain development. When caregivers are sensitive and responsive to a baby’s expressions and needs, they create an environment rich in meaningful interactions, without which the brain doesn’t receive the positive stimulation it needs for healthy development of communication and social skills.<sup>2</sup>

The Georgia Department of Public Health sees language nutrition in early childhood development as a public health priority and an opportunity to change the outcomes for millions of Georgia children. But it is not something Public Health – or any single agency or organization – can achieve on its own.

The Georgia Brain Trust for Babies was established to increase language nutrition and improve outcomes for all Georgia children, particularly those at greatest risk. It is guided collectively by community leaders and leaders from the Georgia Department of Public Health, the Georgia Department of Education, Emory University’s School of Nursing and Department of Pediatrics, the Marcus Autism Center at Children’s Healthcare of Atlanta, the Atlanta Speech School’s Rollins Center for Language and Literacy, and Get Georgia Reading – the state’s campaign for grade level reading. Within the Georgia Brain Trust for Babies, there are campaigns tailored to meet the needs of specific populations of children.

The Hundred Babies campaign is focused on those children who are deaf or hard of hearing. The goal is to identify those children by one month of life, diagnose by three months, and have them in remediation by six months. Visual language – sign language – develops the same area of the brain as spoken language and is just as effective in developing neural circuits. The key is repeated stimulation in a positive environment.

Talk With Me Baby includes campaigns to increase language aimed directly at parents and caretakers. Training for WIC (Women, Infants and Children Food and

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Nutrition Service) nutritionists and nurses has occurred in all 159 Georgia counties to encourage parents to talk with their babies more. WIC reaches those families under 185 percent of the Federal Poverty Level and in Georgia that translates to about 50 percent of the families babies are born into each year (2015 Georgia WIC Participation Summary). Talk with Me Baby provides the tools to promote language acquisition in that population.

Public Health nurses, OB, NICU and pediatric nurses throughout the state still need to be trained about Talk With Me Baby. The Emory School of Nursing and Marcus Autism Center have developed a rigorous curriculum for these professionals and it is currently being offered and evaluated in the metro Atlanta area. Trainings will soon be offered to foster parents and caseworkers in the Division of Family and Children Services. The Atlanta Speech School is developing a curriculum for teachers in early care and learning centers. We are working with birthing hospitals so when a women delivers a baby, she is surrounded by staff who are trained in language nutrition and in an environment that is language-rich.

As physicians and health care professionals you play a huge role in the lives of your patients and can help spread the message of Talk With Me Baby. Share with your pa-

tients the importance of language nutrition in early brain development – before and after birth - and reinforce the need for positive, back and forth interactions with young children. The Brain Trust for Babies and Talk With Me Baby are important steps forward for Georgia, but even more public-private partnerships are needed to promote early brain development through language nutrition. The good news is that the 30 million word gap can be bridged and together we can have an impact on the lives of Georgia’s children and on the overall health of our population. ■

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