

A book excerpt from *Foods for Thought* by Vicki Griffin, MS, Human Nutrition, MPA

Having a healthy brain helps you practice a balanced lifestyle. Lifestyle choices have a profound affect on your brain throughout your life. During infancy and childhood, when the brain is developing, lifestyle choices are especially important.

For example, when a pregnant woman smokes, the placenta tends to be too small. This impacts the developing brain of the fetus. When 17,000 children of smoking mothers from England, Scotland, and Wales were tested at ages 7 and 11, certain cognitive deficits tended to be more prevalent.<sup>[1]</sup> These included poorer performance in reading, math deficiencies, and more behavioral problems. In addition to the increased risk of heart attack, lung cancer, and emphysema to the parent, the children of smoking mothers are at increased risk for cognitive (brain) disorders.

### **Baby Brew?**

Another example of the impact of lifestyle choices on the developing brain involves alcohol. Few are aware that a significant number of young mothers are drinking alcohol during their pregnancies. More than 375,000 babies are born to mothers who are substance abusers, which puts 1 in every 11 babies born at risk for complications.

A new government report points out that no universally safe level of alcohol consumption during pregnancy has been identified. Drinking during pregnancy is associated with increased risk for attention-deficit / hyperactivity disorder (ADHD), memory deficits, learning disabilities, and other brain disorders.<sup>[2]</sup> <sup>[3]</sup>

### **How Does Your Garden Grow?**

The developing brain is like a garden. The healthiest prenatal and early childhood environment can be compared to a well-planted and tended garden. It is in this environment that the potential for producing the best crop is created. It is the same with the developing brain. Providing the most healthful diet and lifestyle environment increases the potential for optimum development and future mental function.

But remember this. Even gardens that have been neglected can be improved and nurtured every day with proper care and attention—and the same holds true for our mental faculties. Children from the most disadvantaged environment may begin to improve through careful lifestyle management and healthful nutritional intervention.

They can begin to bloom with mental and emotional benefits that might otherwise lie dormant or even be choked out by the weeds of neglect! The good news is that even with a poor history, mental faculties and general brain health are capable of improvement with improved dietary and lifestyle choices combined with an enriched environment.

### **Head Start!**

The truth is that healthful lifestyle choices can benefit the developing brain in some very significant ways. Growing evidence suggests that structural and functional brain reserves, thought to develop in childhood and adolescence, may be crucial in determining when cognitive impairment begins.<sup>[4]</sup> One study of more than 3,500 men showed that poor nutrition in childhood increased the risk for memory loss, concentration problems, and other symptoms of impaired mental function later in life.<sup>[5]</sup> The

study's lead researcher, Richard Abbot, explains: "There is a whole constellation of diseases out there that occur in later years, which are associated with how children are treated early in life."<sup>[6]</sup>

A consistently nourishing diet for the pregnant woman that includes a wide variety of fresh fruits and vegetables, whole grains, beans, and legumes; healthful fats such as those found in olives, nuts, avocado, olive oil and soy or canola oil; and a reliable source of vitamin B<sup>12</sup>, will provide the developing baby with key nutritional building blocks that will provide a true *head start* that lasts over the long haul! A healthful diet also helps prevent both undernourishment and obesity in Mother—two extremes that hurt Mother and Baby alike.

Folate is just one of the important nutrients available in dark greens, citrus, legumes, whole grains, or fortified cereal products that can go a long way in the prevention of birth defects. Good nutrition is a winner for both Junior and Mother. And there is no question that the health of the mother will affect the baby.

But while many are aware of the importance of certain health issues such as avoiding alcohol and caffeine and watching folate intake during pregnancy, new studies are showing a link between overweight and diabetes in pregnant women and increased risk for birth defects. Overweight is described as being more than 15% over normal body weight and is associated with a 30% to 40% increased risk of major birth defects.<sup>[7]</sup> The babies of malnourished as well as obese mothers are marked for increased risk for diabetes and obesity later in life.<sup>[8]</sup>

After birth, the next critical period in building the brain is from birth to weaning. Breast milk is the best food for babies. Mother's milk is designed to provide maximum, balanced nutrition for the development of a healthy body and brain. Breastfeeding also provides the closeness that helps babies feel loved and secure.

Lifestyle choices not only improve a mother's health but also enhance the chances of having a healthy baby and reduce the risk for chronic diseases later on. Whatever the age of your child, it is never too late to improve nutrition and develop lifestyle choices that will boost brain power and improve health—for a new beginning!

<sup>[1]</sup> *Smoking and Health: A Report of the Surgeon General*, DREW Pub No (PHS 79-50066).

<sup>[2]</sup> Prenatal ethanol reduces the activity of adult midbrain dopamine neurons. Shen RY, et. al. *Alcohol Clin Exp Res* 1999 Nov;23(11)1801-7.

<sup>[3]</sup> Glutamate signaling and the fetal alcohol syndrome. Olney JW, et. al. *Ment Retard Dev Disabil Res Rev* 2001;7(4)267-75.

<sup>[4]</sup> Height as a marker of childhood development and late-life cognitive function: the Honolulu-Asia Aging Study. Abbott RD, et. al. *Pediatrics* 1998 Sep;102(3 Pt 1)602-9.

<sup>[5]</sup> Ibid.

<sup>[6]</sup> *Medical Tribune: Internist & Cardiologist Edition* 1998;39(17)20.

<sup>[7]</sup> *March of Dimes Task Force Report on Nutrition and Optimal Human Development*, 2002.

<sup>[8]</sup> Shell E. *The Hungry Gene* (New York, NY: Atlantic Monthly Press, 2002).