The basic intent of breastfeeding is to provide nutrients from mother to child in the purest form possible. So why has the subject of breastfeeding become so taboo? From the TIME Magazine cover featuring a mother breastfeeding her three year old to the women photographed in military uniforms breastfeeding their children, there has been much heated debate over breastfeeding in recent years.

With instant formula more readily available than ever, it is time we had a real discussion about breastfeeding and why women need to be doing more of it.

**Child Nutrition - Breastfeeding and Biology**

Researchers in the Netherlands looked at data from more than 4,000 infants and found that babies who were exclusively breastfed for more than four months had a “significant reduction of respiratory and gastrointestinal diseases in infants.” They also found that being breastfed until six months of age seemed to be even more protective and appeared to reduce the number of infections for the next six months of the child’s life. Why is that?

The cells of the mature intestinal lining are tightly packed together so that potential allergens cannot seep through into the bloodstream. But in the early months, the lining of a baby’s immature intestines is more like a sieve, allowing potential allergens to get through, which leaves the infant vulnerable to allergies and infections.

Immunoglobulin A (IgA) is a protein which is only available in breast milk. Scientists believe that immune factors such as secretory IgA help prevent allergic reactions to food by acting like a protective sealant in the digestive tract. Without this layer of protection, inflammation can develop and the wall of the intestine can become “leaky.” This allows undigested proteins and other molecules to cross the gut where they can cause an allergic reaction and other health problems.
Immune cells can be transferred from one individual to another through antibody-rich serum. We have learned that breast milk already contains antibodies that are transferred to the gut of the infant and protect against allergies and infections until the newborn can synthesize its own antibodies. This is known as passive immunity because the fetus does not make any memory cells or antibodies – it only borrows them. The opportunity for passive immunity is usually short term, lasting from a few days up to several months.

Furthermore, breast milk aids in the proper development of a baby’s gastrointestinal tract. Breast milk contains a special substance called epidermal growth factor (EGF) which promotes the growth of the cells lining the baby’s intestines as well as other surface cells such as the cells of the skin. Babies who are fed formula simply do not get the naturally protective and developmental benefits that breast milk provides, leaving them more vulnerable to inflammation, allergies, and other eventual health issues.

**How Long Should You Breastfeed?**

The American Academy of Pediatrics recommends exclusive breastfeeding for four to six months. This is to be followed by continued breastfeeding for one year or longer, as complementary foods are introduced. However, according to an article published March 25, 2013 in *Pediatrics*, early introduction of solid foods to infants under the age of four months is highly prevalent in the United States.

During the first three years of life, a child’s DNA is programmed to only provide the digestive enzymes needed to digest their own mother’s milk. Amylase, the enzyme necessary to properly break down starch, is not available in the mouth until six months after birth. Teeth start appearing around the 8th month or so and the intestines prepare for digesting carbohydrates around the age of 18 months. It is only around the age of 36 months that their digestive tract is finally able to deal with some greater microorganism population and the small and large intestines are ready to accept or tolerate natural sugars.

Many in our field have suggested that the introduction of store-bought baby foods too early in life increases carbohydrate intake, thereby boosting insulin secretion and causing metabolic programming that can predispose a child to diabetes and obesity. Children’s allergies are up 400%, asthma is up 300% since 2009, and now 1 in 50 children have autism. Our children are experiencing over 50 “adult” diseases such as Diabetes 2, high blood pressure, and cholesterol problems. Eosinophilic Gastritis is at an all time high. These trends are alarming and we must pay attention and seek a solution.
The Dangers of Infant Formulas

Toxins within baby formulas are another point of contention. A recent government study found several well-known brands of powdered formula contained unfavorable and even dangerous contaminants. Though the CDC didn’t identify the brands, they were identified as ones found on the shelves of major grocers around the country. Among the toxins was perchlorate, a compound used to make rocket fuel and which is known to have detrimental effects on the thyroid as well as hormone production. Perchlorate contaminants are also found in water, which means infants are at even greater risk because not only is the toxin present in the formula, they get a double dose when the powdered formula is prepared with contaminated water.

Equally alarming is the fact that high fructose corn syrup (HFCS) is found in many infant formulas. HFCS is known to cause many health problems including metabolic disturbances, weight gain, high triglycerides, and liver and heart damage.

Genetically modified food is also a concern with infant formulas. Genetic ID, a company in Fairfield, IA, tested four soy-based baby formulas for genetically engineered ingredients. All four (Carnation Alsoy®, Similac Neocare®, Isomil®, and Enfamil Prosobee®) tested positive. And since many cows in the U.S. are now routinely ingesting synthetic growth hormones to artificially increase their milk production, it stands to reason that these hormones are also getting into the U.S. Formulas.

Most consumers are completely unaware of how much genetically engineered food they are consuming because the U.S. government does not require this food to be labeled as such. The bottom line is all of these things can be present in baby formulas, and in fact almost always already are. This poses a threat to the growth and development of children at a crucial time in their life.

The Need for Enzymes Has Never Been Greater

There are many circumstances in which mothers are unable to breastfeed and this article is certainly not an attack on those women. In fact, I was a mother unable to breastfeed. But today there are so many options available, both to avoid the negatives of toxic formulas and to offer digestive enzyme support when mother’s milk is not available. Children can benefit greatly if given supplemental digestive enzymes the minute they stop taking in their mother’s breast milk or with the introduction of formula or foods they are not intestinally equipped to digest. There are also good organic formula and food options out there that when paired with digestive enzymes can offer an even better alternative.
Animal enzymes are not recommended for pregnant women or children, so be sure to use plant-based enzymes. Also, look for a comprehensive blend with enzymes that digest carbohydrates, proteins and fats. And since not all supplemental digestive enzymes are the same, look for select high quality enzyme supplements that contain no fillers, herbs, or synthetic vitamins or minerals.

**Case Study: Infant Male with Colic**

I worked with a couple that had finally realized their dream of having a child. They were so excited they couldn’t wait for me to come over and meet him. However, every time we spoke by phone the child was emitting a long, high, piercing cry in the background. I recognized this as infantile colic, something we all see too often in infants today. This being their first child, they did not know what to expect. The mother had a problem breastfeeding and was told formula was probably better for her child and was given a liquid formula from her pediatrician. She mentioned feeling relieved she didn’t have many “poopy” diapers to change as the child had one bowel movement a day. What she didn’t realize is this was not normal.

Once I was able to see the child in person it was clear he truly was miserable. First, I checked the pediatrician-recommended formula ingredients and was shocked it was 70% sugar. After searching around, I found a powder formula which had around 17% sugar additives (the best I could find at that point in time). I recommended in addition to changing formulas that the parents incorporate digestive enzymes. With each feeding they mixed digestive enzymes with sterile tepid water in a child medicine feeder and dispensed the mixture in his mouth and immediately followed with the new formula. They noticed significant improvement immediately and continued to see marked improvement in his attitude, restfulness, and bowel movement regularity. The infantile colic completely dissipated.

Hippocrates was quoted as saying, “all disease begins in the gut.” With over 30 years of scientific and clinical research behind me in the area of digestion, I can agree with this unequivocally. And as a mother, I have always wanted lifelong health for my children. This is why I so passionately believe that supporting proper development and function of the digestive system from infancy is the key to bringing a brighter, healthier future to our youth.
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Breast milk is more digestible than formula


Breast milk contains immunities to diseases and aids in the development of baby’s immune system


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