The soy-based formula-fed infants admitted with symptoms indicating thiamine deficiency experienced a rapid improvement when treated with thiamine.


INCREASED RISK OF CHILDHOOD CANCERS

Lack of breastfeeding is known to increase the risk of cancer. This novel study found a significant level of genetic damage in infants aged 9 to 12 months who were not breastfed. The authors speculate that the genetic damage may play a role in the development of cancer in childhood or later life.


The UK Childhood Cancer Study analysed 3500 childhood cancer cases and the relationship to breastfeeding. Results showed a small reduction for leukemia and for all cancers combined when infants had “ever been breastfed”.


A case controlled study, in the United Arab Emirates looked at 117 cases of acute lymphocytic leukemia and 117 controls. They found that the breastfeeding duration of those with leukemia was significantly shorter than the breastfeeding duration of the controls. They concluded that breastfeeding duration of six months or longer may protect against childhood acute leukemia and lymphomas.


This systematic review to look at the evidence for the effect of breastfeeding on the risk of developing childhood leukemia examined 111 studies from which they identified 32 eligible articles. Of these they reviewed 10 and found that four had quality evidence regarding the association between breastfeeding and leukemia. In the two largest and highest-quality studies breastfeeding was associated with a significant risk reduction and in one of these studies, longer durations reflected greater protection. They note that in the US approximately 1.4 billion dollars are spent annually to treat childhood leukemia.


INCREASED RISK OF CHRONIC DISEASES

A review of infant feeding practices and childhood chronic diseases shows increased risk for Type I diabetes, celiac disease, some childhood cancers, and inflammatory bowel disease associated with artificial infant feeding.


Celiac disease may be triggered by an autoimmune response when an infant is exposed to a food containing gluten proteins. Ivarsson and her team of researchers looked at the breastfeeding patterns of 627 children with celiac disease and at 1254 healthy children to determine the effect of breastfeeding during the time of introduction of gluten-containing foods on the development of celiac disease.

An astounding 40 per cent risk reduction was reported for the development of celiac disease in children at two years of age or younger for those who were breastfed when dietary gluten was introduced. The effect was even more pronounced in infants who continued to be breastfed after dietary gluten was introduced, the authors noted.


To determine the effect of early infant feeding practices (i.e., the impact of breastfeeding versus no breastfeeding; the duration of breastfeeding; and the effect of breastfeeding while introducing gluten-containing foods) on the development of celiac disease (CD), the authors reviewed the literature available on breastfeeding and CD.

They found that children with CD were breastfed for a significantly shorter period of time. Children being breastfed at the time of gluten reduction had a 52 per cent reduction of risk for developing CD compared with children who were not breastfed at the time of introduction.

The authors pose two potential mechanisms for the protective effect. Firstly, that continued breastfeeding limits the actual amounts of gluten received. Secondly that breastfeeding protects against intestinal infections. Infections can increase the permeability of the infant’s gut and therefore allow the passage of gluten into the lamina propria.

Others have suggested that breastmilk IgA may reduce the immune response to ingested gluten or immune modulation may occur through specific T-cell suppressive effects.


Inflammatory bowel disease and Crohn’s disease are chronic gastrointestinal conditions that are more frequent for those who are formula-fed. A meta-analysis on 17 relevant studies supports the hypothesis that breastfeeding is associated with lower risks of Crohn’s disease and ulcerative colitis.


INCREASED RISK OF DIABETES

To determine the link between cow’s milk (and cow’s milk based infant formula) consumption and the development of antibody response to cow’s milk protein, Italian researchers measured the antibody response of 16 breastfed and 12 cow’s milk-fed infants under four months of age. Cow’s milk fed infants had elevated levels of beta-casein antibodies when compared to breastfed infants. They concluded that breastfeeding for the first four months prevented the production of antibodies and could have a preventive effect on the development of Type 1 diabetes.


In this case-controlled study, 46 native Canadian Type II diabetes patients were matched with 92 controls. Pre- and postnatal risk factors were compared. Breastfeeding was found to reduce the risk of Type II diabetes.


Early introduction of infant formula, solids and cow’s milk are factors shown to increase the incidence of Type I diabetes later in life. Swedish (517) and Lithuanian (286) children aged 0 to 15 years who were diagnosed with Type I diabetes were compared to non-diabetic controls. The results showed that exclusive breastfeeding for five months and total breastfeeding for longer than seven or nine months are protective against diabetes.


Data was collected via questionnaires in this case-controlled study consisting of 668 diabetic Czech children and 1,466 controls. This study too confirms that the risk for type I diabetes decreases with increased duration of breastfeeding. Not breastfeeding was associated with an increased risk – OR of 1.93. Breastfeeding for 12 months or longer reduced the risk significantly – OR of 0.42.