

BABY SARA was born into the Glick family in the summer of 1999. Having seven older brothers, she was the cherished little girl the family had hoped for. Samuel and Elizabeth Glick were Amish dairy farmers in rural Pennsylvania. Four months later however, baby Sara became very ill. When Elizabeth found her unconscious in her crib she was rushed to the hospital. The attending physician noted a hemorrhage in her right eye and extensive bruising on her body, and suspected that her injuries were caused by child abuse. Two days later she died. The county coroner found midbrain damage and bleeding, typically caused by shaking babies violently. The cause was said to be a “closed-head injury” and suspected to be an act of homicide.

Samuel and Elizabeth Glick not only lost their baby girl, but all seven of their sons were taken from their home by Child Protective

Services, placed in non-Amish foster homes, and the story went on national news. Dr. Holmes Morton, a Harvard trained pediatrician who specialized in genetic-based diseases found out about the situation. He worked with the Amish community and was respected by them. After meeting with the parents, Morton concluded that Sara's death was not the result of child abuse but was due to a genetic liver condition, which resulted in a vitamin K deficiency and bile salt transporter disorder. He had previously seen this in 14 other Amish children and some of Sara's cousins. Though not over night, the Glick boys would return to their home and Samuel and Elizabeth would be exonerated from the charges placed against them.

The facts as we see them, or as they are presented to us, do not always tell the whole story. This is more often the case than not. We ourselves base decisions or come to conclusions that are founded on partialities more than we may like to admit, or are perhaps aware of.

Recently, my husband shared an article with me discussing the nutritional advantages that white rice has over brown rice. It presented the case that minerals are better absorbed from fortified white rice than brown rice. The culprit for binding mineral bioavailability in the brown rice was identified as phytate.

Phytate, or phytic acid, is naturally found in grains, nuts, seeds and beans. Phytic acid is an anti-nutrient that interferes with the absorption of minerals, such as calcium, iron, and zinc from the diet. Interestingly enough, phytic acid is not the only ingredient in plant foods that is classified as an antinutrient. Oxalic acid, found in spinach, inhibits calcium absorption. Enzyme inhibitors, found in soybeans, prevent protein absorption. Why would anti-nutrients be found in foods that we have thought to be nutrient rich; which we believe were designed to provide optimal nutrition?

Phytate is found in the bran and germ of grains, in legumes, nuts and seeds. It prevents premature germination and stores the phosphorous that plants need to grow. We wouldn't be able to store these food items through the winter if it weren't for phytates. When seed germination begins, for example, after a good soaking in the ground, “phytate is hydrolysed, and phosphorous along with minerals such as calcium, magnesium and iron are liberated, becoming available for germination and development of the seedlings.”¹



Phytate's molecular structure is attracted to minerals and binds with them, plain and simple. Phytate sounds fine and dandy for the seed's sake, but what about its impact on us?

Lab analysis and experiments have demonstrated that when phytic acid is added to refined flour magnesium absorption is decreased. "Consuming

PHYTIC ACID IS A PHYTOCHEMICAL WITH SIGNIFICANT ANTI-CANCER AND OTHER HEALTH BENEFITS

5-10 mg of phytic acid can reduce iron absorption by 50%." While in the intestines, phytic acid can bind the minerals iron, zinc, and manganese. Once bound, they are then excreted. All that good nutrition is whisked away. Concerns exist regarding this nutritional inhibitor, blaming deficiencies on it, and some calling it a toxin.

Interestingly enough, however, a bright side has been found to the apparently bleak phytate saga. By some phytate is called a phytochemical, an antioxidant, a blood sugar lowering agent, and an anti-cancer compound. Another term for phytate is inositol hexaphosphate (IP6). I will cite some conclusions of researchers who approached phytate from the other side of the mountain.

"Recently IP(6) has received much attention for its role in cancer prevention and control of experimental tumor growth, progression, and metastasis. In addition, IP(6) possesses other significant benefits for human health, such as the ability to enhance immune system, prevent pathological calcification and kidney stone formation, lower elevated serum

cholesterol, and reduce pathological platelet activity."³

"Laboratory studies of cell cultures have shown that IP6 may help put cancer cells on a path toward normal cell death and may help keep them from spreading to other parts of the body. It may also affect the growth of blood vessels that supply the tumor and the immune system in general. These studies have shown IP6 may have activity against cancer of the pancreas, breast, prostate, colon, and other types of

cancer. . . . Studies in animals have found that supplementing the animals' diets with IP6 may help prevent tumors from forming in the prostate, lung, colon, skin, and other areas."⁴

Joel Fuhrman, MD states, "Phytic acid is a phytochemical with significant anti-cancer and other health benefits such as reducing inflammation, lowering blood sugar and insulin, and protection against diabetes, Parkinson's, and even reduces kidney stone formation."⁵

"The bioavailability of different minerals and trace elements is considerably reduced by phytate complexes. . . . There is also evidence for protective functions of phytic acid such as the prevention of the formation of free radicals, the delaying of post-prandial glucose absorption, the decrease in plasma cholesterol and triglycerides as well as a change in the carry over of heavy metals."⁶

Preconceived opinions aside, how do you process conflicting information on any given subject? Acknowledging that I do not know all the facts is a good place to begin. The promise is that if any of us lacks wisdom, "let him

ask of God, who gives to all liberally" (James 1:5, NKJV). I hope you will wait to come to any definite conclusions on phytates. We do not have enough information. May God grant us wisdom and knowledge.

¹ Wenche Frølich, "Phytate—a natural component in plant food," http://wholegrainscouncil.org/files/backup_migrate/PhytateProsCons_0910_DK-WGC.pdf.

² Ryan Andrews, "Phytates and phytic acid," <http://www.precisionnutrition.com/all-about-phytates-phytic-acid>.

³ Vucenik I, Shamsuddin AM, "Protection against cancer by dietary IP6 and inositol," *Nutr Cancer*. 2006;55(2):109-25. <http://www.ncbi.nlm.nih.gov/pubmed/17044765>.

⁴ "Inositol Hexophosphate," American Cancer Society, 8/5/13, <http://www.cancer.org/treatment/treatmentsandsideeffects/complementaryandalternativemedicine/dietandnutrition/inositol-hexaphosphate>.

⁵ Linda Carney, MD, "Phytic acid in Grains? No problem!", <http://www.drcarney.com/topics/item/257-phytic-acid-in-grains-no-problem>.

⁶ J. Pallauf, G. Rimbach, "Nutritional significance of phytic acid and phytase," *Arch Tierernahr*. 1997;50(4):301-19. <http://www.ncbi.nlm.nih.gov/pubmed/9345595>.



Risë has been writing on various health subjects for over 20 years. She has inspired many through her research and down-to-earth writing and speaking style. She believes that healthy living is intimately tied to happiness and wholeness.