

The Bitter Truth of Aspartame: Legally Poisoning American Society

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Diet coke: zero calories, zero sugar, zero carbs. I have often wondered how a liquid so flavorful and similar to its calorie-filled sister product, Coke, can possibly have these properties and not be bad for me. How does it do it? Aspartame. The truth: aspartame is far more dangerous and pricier than those extra calories that it replaces. In our diet-crazed society, the use of artificial sweeteners has skyrocketed and people are naively, mindlessly, and constantly consuming these chemicals. Aspartame has infiltrated the American diet for decades and is the most widely used artificial sweetener in the world (Barua, 2007).

However, aspartame is a dangerous chemical with numerous side effects and a history tainted with business greed and political lies. Furthermore, the “diet” industry today offers low calories, low fat, and low sugar options; however, many diet products include aspartame, which has been scientifically shown to actually cause weight gain. How has such a chemical entered so many products? And why is it that now, after numerous studies have revealed this chemical's tendency to wreak havoc on our minds and bodies, this chemical is still allowed and so widely used? Greedy American businesses and complacent politics have skewed the truth on this dangerous chemical. Aspartame needs to be not only removed from the foods and diets of Americans, but made illegal, because it is slowly poisoning our bodies.

Aspartame is a white powder in its pure form and is commercially recognized in the forms of Equal, Nutrasweet, and Spoonful. Today it is found in over 6,000 products ranging from diet soda to yogurt to chewing gum, and it is consumed by more than 250 million people (Mercola, 2006). Americans are ahead of the rest of the world in their addiction to aspartame, consuming 54 percent of the world supply (Barua, 2007). Over two-thirds of Americans are consuming these products, and consuming the products in large amounts. The FDA now has stated that the acceptable daily intake of aspartame for humans is 50 milligrams per kilogram of body weight (Janssen, 1988). However, at least 30 percent of the population is sensitive to moderate doses of aspartame (Schachter, 1996).

There have been more reports to the FDA for aspartame reactions than all other food additives combined. Eighty percent of complaints to the FDA about food additives by 1988 were related to aspartame (Mercola, 2006). In 1992, after more than 8,000 complaints on side effects from Nutrasweet, a list of 92 symptoms from the product was released by the FDA. Some of the main side effects include headaches, migraines, fatigue, insomnia, depression, seizures, vision impairment, hallucinations, and diarrhea. Aspartame has also been linked to cancer, infertility, even death. According to the FDA itself, fewer than one percent of people who experience reactions ever report them; thus approximately one million people today have likely suffered reactions (Mercola, 2006). The FDA still refuses to act and ban this chemical, denying the obvious and proven health effects.

Laws are meant to protect people and things from harm. The side effects from

aspartame are serious and horrible medical issues that millions are suffering from today unknowingly and completely unnecessarily. This man-made chemical is rampant in today's society, with most consumers completely oblivious to its dangers and the reasons for health issues they may suffer due to its consumption. While aspartame is wreaking havoc on our bodies and minds, actions are not being pursued to put a stop to its use. Aspartame remains buzzing under the radar in today's society and needs to be made illegal.

To understand the effects aspartame can have, we must look at its genetic makeup. Aspartame is a chemical made up of three components: phenylalanine (50 percent), aspartic acid (40 percent), and methanol. Phenylalanine and aspartic acid are amino acids found normally in many common foods, which is what industries that support aspartame say. However, they neglect to tell the whole truth, as these neurotoxins are harmless only when consumed with other amino acids (protein), fats, and carbohydrates in the form of genuine whole foods. Alone, they enter the central nervous system in frightening and unusually high concentrations, causing excessive firing of brain neurons and potential cell death. This concept is termed excitotoxicity. Physical effects from this include, but aren't limited to, headaches, mental confusion, balance problems, and seizures (Mercola, 2006). Mothers with children under 12 months and pregnant women put their babies at risk if consuming aspartame because the child's blood brain barrier (BBB), which is designed to keep toxic substances from entering the brain, is not developed enough to protect it from the chemical (Freedman, 1987). Breast milk from women who have ingested aspartame

can also be dangerous. In the fetus and during the first year of life, these dangerous excitotoxins can enter the BBB and have free access to the nervous system (Lydon, 2005). Phenylalanine is especially dangerous for people with phenylketonuria, a genetic disorder that occurs in one in five thousand births. People with this disorder cannot utilize phenylalanine, and if it is ingested, toxic buildup in the body results, causing possible mental retardation and even death, if proper care isn't taken (Barua, 1995).

Even worse is the last 10 percent of aspartame: methanol, also known as wood alcohol, an extremely toxic substance. Methanol is gradually released in the small intestine upon encountering the enzyme chymotrypsin. It then breaks down into formaldehyde, which converts into formic acid. Formaldehyde is a known carcinogen that causes retinal damage, interferes with DNA replication, and causes birth defects (Lydon, 2005). Methanol toxicity impacts your central nervous system first, and it takes approximately ten to thirty hours before symptoms tend to arrive, the most common of which is vision impairment. To make clearer how dangerous this chemical is, formaldehyde is used to preserve cadavers and is found in over a hundred different pesticides (Mercola, 2006). The Environmental Protection Agency (EPA) holds that a safe intake of methanol per day is no more than 7.8 milligrams; however, a one-liter beverage sweetened with aspartame contains about 56 milligrams of methanol (Lydon, 2005). Again, manufacturers argue that the methanol in aspartame is safe because it is found naturally in fruit juices and vegetables. However, methanol is in a bound form with pectin in these foods, and the

human body does not have the digestive enzymes to break down the pectin and release the methanol into the bloodstream (Schachter, 1996). Also, ethanol, the classic antidote for methanol toxicity, is found in natural food sources of methanol. It inhibits metabolism of methanol, giving the body time to clear the toxin through the lungs and kidneys (Monte, 1984). But the methanol in aspartame is in free form and can be absorbed. Aspartic acid, phenylalanine, and methanol and its chemical breakdowns in the body are cumulative because of their rapid absorption and slow excretion. Currently, there are no studies that address the issue of long-term usage of aspartame (Barua, 1995). It is important to note as well that owing perhaps to the loss of two enzymes during evolution, humans are more susceptible to methanol than any laboratory animal; even the monkey is not considered a suitable subject to truly test the extent of aspartame's effects on humans (Monte, 1984).

Aspartame in liquid form is unsafe for prolonged storage and high temperatures. At 86 degrees or higher, the methanol breaks down into formaldehyde and the phenylalanine decomposes into diketopiperazine (DKP), a known carcinogen. DKP has been implicated in affecting blood pressure, creating birth defects, and causing brain tumors. These two breakdowns also happen when aspartame is stored for periods of approximately six months or longer. Even in cooler temperatures, the methanol in aspartame can spontaneously break down into formaldehyde (Mercola, 2006).

Aspartame has been implicated as a possible cause of cancer. After it was approved for use in beverages in 1983, over six million pounds of diet soda containing aspartame

were sold. A year later, the rates of brain cancer increased dramatically while rates of other types of cancer were decreasing. A report taken in early 1985 showed a 10 percent increase in the rates of common primary malignant brain cancer (Mercola, 2006). A study undertaken by the FDA of 320 rats found that after two years of eating feed containing aspartame, twelve developed malignant brain cancer (Mercola, 2006). Although no studies prove conclusively that aspartame causes cancer, it is important to keep in mind the timing of the rising rates of brain cancer in 1984 and our current rising cancer rates.

Aspartame is 200 times sweeter than sugar and has very few calories, making it appear to be the perfect solution to dieting while getting that sugar taste we all crave. However, phenylalanine and aspartic acid trigger the rapid release of insulin and leptin, hormones telling the body to store fat. Also, large doses of phenylalanine lower levels of serotonin and can lead to food cravings (Forman, 2000). Furthermore, both real and artificial sweeteners bind to and stimulate receptors on the taste buds, spurring the same taste and pleasure pathways in the brain. However, the artificial sweeteners activate, but do not satiate, the pleasure-related brain region, having less of a feedback mechanism to stop sugar cravings. In a study taken in early 2008, results suggested “that exposure to an artificial sweetener may undermine the brain's ability to track calories and to determine when to stop eating” (Conti, 2008). A study on “diet” soda undertaken at Purdue University found that rats fed diet soda ate more high-calorie foods and gained more weight than rats fed regular soda (Mercola, 2006). Finally, many people will have a “diet”

product and mentally think they haven't put very many calories into their bodies, so will eat more than they otherwise would.

Not only are the effects on the body alarming, but aspartame is also highly addictive. The methanol and phenylalanine both increase dopamine in the brain, causing a strong "high." This can create addiction, which can be exacerbated by the release of free methyl alcohol, leading to chronic methanol poisoning. This methanol poisoning further increases dopamine levels and possible addiction. In fact, methanol is even classified as a narcotic (Mercola, 2006). I watch my friends who consume at least one full glass of Diet Coke at lunch daily. When the soda machine was temporarily broken during a lunch period recently, my friend had to go to the Grab-and-Go store after lunch to get her "fix." Although my observations remain anecdotal, I cannot help but label her an addict to aspartame.

I find myself checking and rechecking these shocking facts about aspartame, thinking there is no way such a product could legally invade our society, our homes, and our bodies. But the truth is, artificial sweeteners have a systematic, déjà vu history in America. Almost all artificial sweeteners since the first, saccharin, discovered in 1879, have been found accidentally when a scientist finds that a chemical he is experimenting with tastes sweet. From there, a manufacturer buys the patented chemical, convinces the FDA to approve it, often without adequate research on its health consequences, and the sweetener enters society. Over the years, as complaints pile up against that sweetener,

investigations are spurred and research on the health risks is conducted. As that particular sweetener is discovered to have dangerous health effects, a new sweetener enters the market, and people begin flocking naively to this new sweetener, having faith in the FDA's approval and support.

Aspartame's history reflects this cycle and is tainted with political lies and deception. Aspartame was first discovered accidentally in 1965 by chemist Jim Slatter, who created aspartame as a drug to treat peptic ulcer disease (Mercola, 2006). After he accidentally licked his finger and found a sweet taste, the chemical was changed from drug to food additive on FDA paperwork (Lydon, 2005). Senior FDA consultants and scientists continually protested against aspartame because of disturbing animal studies showing a frequency of brain tumors, flawed experimental data, and lack of research on prolonged usage in humans. In 1967, one study of seven monkeys fed milk with aspartame led to one monkey dying, and five having grand mal seizures. However, in the early 1970s, the popular artificial sweetener cyclamate was pulled off the market because of cancer concerns and scientists were seriously questioning the safety of the other popular artificial sweetener, saccharin. Therefore, the market was prime for a new artificial sweetener.

G. D. Searle first patented aspartame in 1969 and took advantage of the artificial sweetener market, investing tens of millions of dollars and political strategy into aspartame's approval. In 1974 it was approved for use in carbonated beverages and dry products, but the approval was taken back the following year after the accuracy of its

health safety tests was seriously questioned. In 1977, the FDA had the U.S. attorney's office investigate Searle for inaccurate and inadequate testing in aspartame studies and knowingly misrepresenting the findings. This was the first time in history that the FDA requested a criminal investigation of a food manufacturer. As the grand jury was investigating Searle, however, Samuel Skinner, the attorney leading the investigation, left the U.S. Attorney's office to take a position with Searle's law firm. This led to a stalling of the investigation, and the grand jury basically had no choice but to abandon the investigation. Then, in 1981, Donald Rumsfeld, later U.S. secretary of defense, became the CEO of G. D. Searle. Rumsfeld had great political influence and was a close ally to the new president, Ronald Reagan. Reagan took office in 1981 and quickly fired the FDA commissioner who wouldn't approve aspartame, appointing Dr. Arthur Hull Hayes in his place. Even then, there was so much opposition to approval that a board of inquiry was set up, which further opposed the chemical. However, Dr. Hayes just overrode his own board of inquiry and in 1981, aspartame was approved for use in dry products. Shortly after this, Dr. Hayes left for a position as senior scientific consultant with G. D. Searle's public relations firm. Then, in 1983, even after studies showing aspartame's heat instability and health dangers in liquid form, it was approved for use in carbonated beverages. The approval of this chemical in the face of scientific facts against it shows that the FDA really isn't working for the American public. As former FDA commissioner Herbert Ley said, "People think the FDA is protecting them--it isn't. What the FDA is doing and what people

think they are doing is as different as night and day” (Mercola, 2006). The FDA is supposed to be protecting American consumers, but really it is protecting American corporations at the expense of those it was designed to help.

In 1996, Ralph G. Walton, M.D., professor and chair of the Department of Psychiatry at Northeastern Ohio University’s College of Medicine, conducted an analysis of all the 164 medical studies undertaken regarding aspartame and human health. Seventy-four of the studies were sponsored by the aspartame industry, every one claiming there were no health problems associated with aspartame use. Meanwhile, 83 of the 90 studies that had no connections to the industry identified one or more problems with aspartame use. Interestingly enough, of the seven non–industry-sponsored studies that did not find problems, the FDA had conducted six (Ephraim, 2001). The industry-supported data appeared manipulated and contained flaws, including improper protocol and omission of critical data.

In the American population today 127 million people--65 percent--are overweight, 60 million are obese, 70 million suffer from some form of cardiovascular disease, 20 million have diabetes, 45 million are prediabetic, and cancer rates are on the rise (Mercola, 2006). Of course, artificial sweeteners aren't the sole reason for many of these health problems, but they're definitely one reason. I look around myself and see it everywhere: the college student in the cafeteria sipping “diet” Coke next to the beverage machine, friends crunching on potato chips (yes, even some types of potato chips can have

aspartame). I even use aspartame myself because I love chewing gum. We have been made into mindless aspartame consumers, captivated by its addictive and sweet spell. This has gone on for far too long. Not only do these studies about the truth of aspartame need to be made well known by the public, but all products with aspartame need to be removed and the chemical itself made illegal. Yet the FDA continues to turn a blind eye to the studies proving aspartame's dangers, maintaining that the studies are inaccurate or false. But when it comes to aspartame, we already know the truth; now it must be acknowledged on a nationwide scale and the product made illegal. Because while we delay acting, we drink, we eat ... and slowly we are unknowingly poisoning ourselves.

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