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Are the Food Additives, Safe or Harmful? - A Review

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ABSTRACT

In the previous century, it was common to add embalming fluid to milk to stop curdling. Once Dr. Wiley of FDA said he found was that eating borax "will create disturbances of appetite, digestion and health" 3. Of embalming fluid, he said: "The addition of formaldehyde to food tends to derange metabolism." The FDA's Website provides a list of approved additives, which companies can legally include in food products. The length of this list is enormous - there are over a thousand different additives. Unfortunately; the list does not include a description of the possible side effects associated with these additives.^[1]

Key words: Food Additives, Food Preservatives.

INTRODUCTION

Substances which are of little or no nutritive value, but are used in the processing or storage of foods or animal feed, especially in the developed countries; includes antioxidants; food preservatives; food coloring agents; flavoring agents; anti-infective agents; vehicles; excipients and other similarly used substances. Many of the same substances are pharmaceutical aids when added to pharmaceuticals rather than to foods. Food additives are substances added to food to preserve flavour or enhance its taste and appearance. Some additives have been used for centuries; for example, preserving food by pickling with vinegar, salting, as with bacon, preserving sweets or using sulfur dioxide as in some wines. What toxicology testing cannot

accurately predict, is the. Long-term combined effect of various additives and environmental toxins on children, the elderly, newborn, the fetus, and people with cancer. We eat, drink, and breathe are loaded with poisons. Your body has become a chemical depository. These slow poisons have been accumulating in our body since birth and are embedded in every cell structure and organ, and disrupt the natural chemistry of your body.

According to Dr. William Rice, a licensed Nutritional Consultant, many common additives have been linked to cancer, allergies, migraines, liver and kidney damage, birth defects, brain damage, and the list goes on. To make things worse, many additives do not appear on labels. The last century, the Scientists discovered if they pumped the apple full of embalming fluid, as they did with dead bodies, the decomposition would be halted and the fruit would be preserved. They applied this "technology" to agriculture, but avoided the term "embalming fluid," referring to it instead as a "preservative" While most preservatives are not literally embalming fluid.

Need of using preservatives

When the food is to be stored for a prolonged period, use of additives and preservatives is essential 'in order to maintain its quality and flavors. Their use prevents spoiling of the foods due to the growth of bacteria and

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fungi. They also maintain the quality and consistency of the foods. Along with its palatability and wholesomeness they also maintain its nutritional.

Food Additive^[2]

A food additive, which prolongs the shelf-life of a food by protecting against deterioration caused by microorganisms. It prevents or inhibits spoilage of food due to fungi, bacteria, and other microorganisms. It stops microbes from multiplying and spoiling the food.

Types of preservatives

1. Antimicrobial preservative
2. Antimicrobial synergist
3. Antimould and antirope agent
4. Antimycotic agent
5. Bacteriophage control agent
6. Fungistatic agent
7. Preservative

Dangers of food additives and preservatives^[3]

Although additives and preservatives are essential for food storage, they can give rise to certain health problems. They can cause different allergies and conditions such as hyperactivity and Attention Deficit Disorder in some people who are sensitive to specific chemicals. The foods containing additives can cause asthma, hay fever and certain reactions such as rashes, vomiting, headache, tight chest, hives and worsening of eczema. Some of the known dangers of food additives and preservatives are as follows:

- **Benzoates** can trigger the allergies such as skin rashes and asthma as well as believed to be causing brain damage.
- **Bromates** destroy the nutrients in the foods. It can give rise to nausea and diarrhea.
- **Butylates** are responsible for high blood cholesterol levels as well as impaired liver and kidney function.
- **Caffeine** is a colorant and flavorant that has diuretic, stimulant properties. It can cause

nervousness, heart palpitations and occasionally heart defects.

What are the effects of Food Additives?^[4]

Avoiding or minimizing toxins in your diet is an important step toward enhancing your health and lowering your risk of disease. Foods, amongst other things (cosmetics & medications), represent a source of these toxins. Why take a risk with your health and the health of your children if you do not need to? You may not even know that you are being affected by food additives. Effects of food additives may be immediate or may be harmful in the long run if you have constant exposure. Immediate effects may include headaches, change in energy level, and alterations in mental concentration, behavior, or immune response. Long-term effects may increase your risk of cancer, cardiovascular disease, and other degenerative conditions. Begin by avoiding the most questionable additives. Plan to either cut down on or cut out altogether those food additives that may be hazardous to your health. Although it may seem difficult to change habits and find substitutes for foods you enjoy, remind yourself that you will be adding to your diet some new wholesome foods that you will come to enjoy even more. Look for foods that are not packaged and processed, but enjoy nature's own bounty of fresh fruits, vegetables, grains, beans, nuts, and seeds. Find foods that resemble what they looked like when they were originally grown. Did you ever see a field of Oreos cookies?

Effects of Food Additives

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All food additives approved for use are carefully regulated by federal authorities to ensure that foods are safe to eat and are accurately labeled.

Symptom Complex, Which Is characterized by one of more of the following^[5]

1. A burning sensation in the back of the neck, forearms, and chest.
2. Numbness in the back of the neck, radiating to the arms and back.
3. A tingling, warmth and weakness in the face, temples, upper back, neck and arms.
4. Facial pressure or tightness, swelling of lips/face
5. Chest pain, rapid heartbeat
6. Headache, nausea, drowsiness
7. Bronchospasm (difficulty breathing) in MSG-intolerant people with asthma.
8. Itching, Redness, Urticaria, Allergic rhinitis.

Certain foods loaded with preservatives are discussed as follows^[6]

- a) **Milk:** Milk has preservatives, in more than 50 per cent. Carboxyl Methyl, Hydro Ethyl, Caustic Soda, Hydrogen Peroxide and colour pigments are stored in these containers while some of these compounds cannot be broken' by washing these chemicals with any soap or water, and the, only way to clean them is to wash them by petrol, Which itself is too deadly to be mixed with the food.
- b) **Soft drinks:** Sodium benzoate, ingredient in many soft drinks and sauces, has the ability to deactivate parts of, DNA and eventually cause diseases, such as' Parkinson's and cirrhosis of the-liver.
- c) **Fruit-juices:** Sodium benzoate and ascorbic acid (vitamin C) are the main preservatives.: The latest study was carried out on a range of such soft drinks. These two preservatives seem to produce. Carcinogenic benzene in the presence of heat and ultra-violet light. Brominated oils are added to bottled fruit juice to maintain a look of freshness even after 6. months of, storage. Unfortunately;

they produce changes in heart tissue, enlargement of, the thyroid, kidney damage, and decrease in liver metabolism and, cause withered testicles. Stannous chloride (tin) is used as, antioxidant and color-retention agent in canned and bottled foods, fruit juices. Acute poisoning has been reported from ingestion of fruit juices containing concentrations of tin greater than 250 mg per liter.

- d) **Meat-sodium nitrite:** It is the most dangerous preservative, used to preserve, colour, and flavour meat products. It is commonly added to bacon, ham, hot dogs, luncheon meats, smoked fish, and corned beef to stabilize the red color and add flavor. It prevents growth of bacteria, but studies have linked it to various types of cancer. Under certain high-temperature cooking conditions such as grilling, it transforms into a reactive compound that has been shown to promote cancer: JECFA (the joint Expert Committee and Food Additives) says it is highly probabl that nitrites are carcinogenic in humans. Benzoates can trigger the-allergies such as skin rashes and asthma as well as believed to be causing brain damage. Two recent studies, released in 2004 and 2007 respectively, singled out food coloring as a potential problem in the ADHD diet. Children with ADHD and allergies were tested on a variety of food additives. Bromates destroy the nutrients in the foods. It can give rise to nausea and diarrhea, Butylates are responsible for high blood cholesterol levels as well as impaired liver and kidney function. Sodium chloride put in more amount in meats and fish can lead to high blood pressure, kidney failure, stroke, and heart attack.
- e) **Whiskey, Beer, Wine, and Soya sauce:** Colouring Matters. These are found in milk, cream, cheese, sauces, sugar, and, although often harmless, their presence is intended to deceive. Aniline dyes are, almost without exception, alone used. None of these colouring matters is in any case necessary, and many of them, even in small quantities, are poisonous. Copper sulphate to colour peas and other vegetables should be carefully considered. There is evidence pointing to the conclusion that

the copper, when added to the vegetables, forms compound which is, not easily soluble in the human body. Tartrazine is used as colourant for yellow food may cause allergic reactions and asthmatic attacks and has been implicated in bouts of hyperactivity disorder in children. The colouring matter for the dairy trade in milk, butter, cheese, and such poisonous substances should be rigorously excluded. Red Dye-40 is suspected to cause certain birth defects and possibly cancer. Caramel is a famous flavoring and coloring agent that can cause vitamin B-6 deficiencies. It can cause certain genetic defects and even cancer.

- f) **Vegetables and Fruits:** Sulfur is used to keep dried fruit fresh. Formaldehyde which is used to retard corpse decomposition is added to disinfect frozen vegetables. Maleic hydrazine Potatoes are coated with this chemical inhibitor because of their bad habit of sprouting, which has resulted in cancer in laboratory animals.
- g) **Ice-creams:** Propylene glycol is used in making ice-cream, the same is used in anti-freeze and paint remover. Carboxy-methylcellulose is a stabilizer, used in ice cream, salad dressing, cheese spreads and chocolate milk. It has produced tumors in 80% of rats injected. Aspartame a Sweetener in snacks, sweets, alcohol, desserts, diet foods may affect people with PKU (phenylketonuria). Recent reports show possibility of headaches, blindness, and seizures with long-term high doses of aspartame.
- h) **Fats and Oils:** Butylated hydroxy toluene (BHT) and Butylated hydroxyanisole (BHA) are phenolic antioxidants which prevents rancidity of fats and oils in food by protecting against lipid oxidation. Although not toxic itself, BHT may interact with other substances. Other studies have shown that BHA protects against some chemical carcinogens. There is evidence that certain persons may have difficulty metabolizing BHA and BHT, resulting in health and behavior changes. BHA and BHT may have antiviral and antimicrobial activities.
- i) **Baby Foods:** Monosodium glutamate is added in new high-tech foods The enzymes which help to

metabolize MSG in adults do not exist in infants. MSG is carried to the brain, causing a dangerous result. It crosses the placenta. MSG fed to growing rats, reduced their growth rate by 16%. The effect on the human fetus is still unknown. It has been known to cause pressure on the head, seizures, chest pains, headache, nausea, burning sensations, and tightness of face. Many baby food producers have stopped adding MSG to their products.

Food Additives And Safety^[7]

Some studies have linked some food additives to hyperactivity in children. A recent British study found that children without a history of any hyperactive disorder showed varying degrees of hyperactivity after consuming fruit drinks with various levels of additives. Among those that were studied were: Sodium benzoate (E211), Tartrazine (E102), quinoline yellow (E104), Sunset yellow (E110), Carmosine (E122), Allura red (E129). See tables below for more information.

CONCLUSION

Food Preservatives may have deleterious effects on health. This paper supports the continued safe and effective. Use of preservatives within these current constraints. While it is hard to. Avoid food additives completely; you can greatly reduce the amount that you do consume. Remove these harmful preservatives from your diet and replace them with wholesome, additive free foods. Select organic fruit and vegetables whenever possible. Wash or peel non-organic produce. Choose fruits and vegetables in season. This means that your exposure to the chemicals used to delay ripening, prolong shelf-life, preserve color and so on, will be limited. Supplement your diet with antioxidant nutrients-vitamins A, C, and E, and the minerals zinc and selenium-since the detoxification of many pesticides. Nowadays, new and emerging methods of food preservation i.e., radical approaches, such as the use of high hydrostatic pressures or voltage pulses to inactivate microorganisms in food, and the direct and synergistic application of ultrasonic radiation are being tried.

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