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Article : A REVIEW: WHAT WE ARE EATING AND DRINKING NOWADAYS, THINK REPEATEDLY

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ABSTRACT

Every sensible human being is very much conscious about his/her food, fruits, tea, drink etc and in this regards, nowadays contamination is the burning problem. Contaminated foods and drinks are common sources of infection. After water, tea and soft drinks is widely used beverage in the world. In this article some common food, fruits, drinks, additives, colour, dyes, etc and their related problems are discussed and some suggestions are indicated among the more common infections that one can get from contaminated foods and drinks.

Presently, the whole world is emphasizing on malnutrition, food safety and health security. Several programs have also been launched in this regard. The year 2008–09 was declared as the 'Food Safety and Quality Year' by the Government of India. Mostly traders/ sellers sold food, fruits, raw food materials, food commodities, additives, pet water bottles, soft drinks, etc. However, all these food-fruits, eatable-drink materials are intensively contaminated or malnutrited or naturally infected.

Most fruit sellers use artificial ripners for ripening the fruits. These artificial ripners are ethylene, propylene, phenyl chloride, carbon monoxide, acetylene, i-buten potassium dihydrogen arthophosphate. Which are used for the early ripening of various fruits? Such as banana, mango, citrus, plums, peaches, tomato, plums, pomegranates, grapes, apricots, Japanese fruits, cherry, etc. Which are extremely hazardous to the human body as it contains traces of arsenic and phosphorus? These ripners are banned in many countries of the world, but it is freely used in India, Pakistan, Bangladesh, Nepal and other countries. Thus, we are at risk of short-term and long-term health effects simply by eating fruits that are induced to ripen.

Except fruits, no other class of food has a variety of pleasant and attractive flavor, with their lucrative coloring; fruits please the eye as well as the plate. With modern transport and cool chain management system, it is possible to have fresh fruits practically all the year round, where it is produced and in areas where it is not possible to grow fruits. Therefore, consumption of fruits has increased considerably in our country. Studies have indicated that people do not consume enough vitamin-C because of increased cost or unavailability, but they are often unaware of the nutritious value and sources. There is growing interest and concern among people regarding foods and their relationship to nutrition and diseases. Food security used to be the primary concern of countries and individuals alike. Nevertheless, as agricultural research succeeds in alleviating the effect of diseases and adverse climate, food security is generally not perceived as a problem any longer; instead concern over quantity has been replaced by preoccupation with quality. Simultaneously, people are more conscious about issues such as ecology, energy conservation and management practices for food production, including pretreatment, which facilitates or increases the attractiveness and ultimately presentation. Fruits are the best natural food for all. Nowadays fruits are deliberately being contaminated by chemicals causing serious health hazards. Toxic chemicals are indiscriminately used to grow, ripen and make fruits appear fresher or even last longer, particularly during early and offseason. Among the pretreatments, which are mostly followed for fruits intended for better consumer acceptance?

Artificial ripening:

Unsaturated hydrocarbons, particularly acetylene, ethylene, propylene, phenyl chloride, carbon monoxide, i-buten, potassium dihydrogen arthophosphate, etc. can promote ripening and induce colour changes effectively. Although the cosmetic quality of such artificially ripened fruits was found to improve, the organoleptic quality was impaired especially when harvested fruits were subjected to treatment without considering their maturity status. Besides, the quantity of ripening agent required inducing ripening for better cosmetic quality, including appearance, etc. will be much more than the conventional dose, when properly mature fruits are not used for such purposes.

Effect of artificial ripper:

Swallowed ingestion of large amounts of ripners chemicals may cause diarrhea, nausea, vomiting and cramps. In addition, symptoms of potassium poisoning may occur, including slow heartbeat, accelerated breathing, muscle weakness and in severe cases, paralysis, eye irritation, inhaled dust and mist may be irritating to nose and throat, causing coughing and choking. Chronic repeated or prolonged skin contact may cause dermatitis. Calcium carbide causes adverse effect as memory loss, cerebral edema, colonic, prostrate, and lung cancer, quick-bug syndrome, etc.

Edible oils: Oils are widely used as cooking medium. Indian mostly used mustard oil for consuming. However, unrefined mustard oil (rapeseed oil) contains a lot of erusic acid, which is deposited in tissues of heart and causes it to swell. Sometimes mustard seeds are mixed with argemone seeds internally adulterated, which yield argemone oil, a toxic, and it functions as co-carcinogen. Nowadays varieties of vegetable oils such as sunflowers oils, soybean oils, safflower oil, linseed oil, groundnut oil, corn oil, etc are available. All the oils have their characteristic mono-and poly-unsaturated fatty acids and saturated fatty acids compositions. They differ nutritionally and cause obstacles in blood circulation.

Solanine potata: Potato, which is one of the important vegetables of the human being, may sometimes contain natural glycoalkaloid toxins of the solanine group. Six solanine alkaloids are well known as α, β, ¥ solanine and α, β, ¥ chaconine. They get concentrated particularly in damaged or green portions (exposed to sunlight) of potatoes. We should avoid eating of such affected parts.

Fungal infection: Foodstuff spoiled by fungi is common. Corn, wheat, bajara, rye, etc are some times long storage infected by fungi of the ergot group. They liberate toxins known as ergotoxins. It may cause vomiting, stomachache, diarrhea, etc. Ergotoxins comprises of at least ten ergot peptide alkaloids and lysergic acid. Lysergic acid amides resemble the notorious psychotropic drugs. Diseases caused by fungi in man are called mycoses and are common in temperate climate.

Oxalic acid and oxalates in tuber vegetables: Arums, corms (oil) such other vegetables which grow underground as tubers, contains excessive amounts of oxalic acid and oxalates which helps to precipitate out calcium, magnesium, irons, copper, etc. Prolonged consumption of such tuber–vegetables may cause stone in kidney and bladder.

Khesari Dal (BOAA): Khesari dal is a cheap source of nutrient among poor the people of India. However, it contains biotoxin called Beta–N-Oxalyi Amino

Alanine (BOAA). That affects on nervous system and makes people cripple. Being chipper, powdered khesari dal is often used for adulteration in powdered pea or channa (choola) known as besan and potentially threatening for health and wealth to human.

Antivitamin : Some kinds of food-fruit materials i.e. certain vegetables and uncooked fish materials destroy vitamin. For example, soyabean contain anti vitamin-D, which destroys vitamin-D. So avoid soybean eating.

Goitrogrns: Green cabbage, uncooked soybean, red cover of groundnut etc are responsible for non-assimilation of iodine in our body and prolonged consumption of such materials may cause goiter, which is iodine deficiency disease.

Mushrooms: not all mushrooms are edible, which releases toxin is non-edible and others who are non-toxic are edible. Mushrooms are of high protein contain and are popular. The toxin realized by the mushroom is alpha amanitin, which hinders RNA synthesis in our body. We must avoid such mushroom.

Aflatoxin: The fungi grow on cereals, red covers of groundnuts, containers of milk –products, the *Aspergillus flavus* in common. It releases a toxin, which is called aflatoxin. These groups of mycotoxins are coumarin type organic compounds and are highly toxic and are known as carcinogen. It affects the red blood cell and brain. In United Kingdom (1960), 1-lake turkey birds were died due to aflatoxin containing feed from peanut contaminant aflatoxin.

Microbes in food: Many of our food are excellent growing media for microbes. *Clostridium botulinum* is a dreaded microorganism that releases a deadly nerve toxin called botulin. Botulins are neurotoxins. There are seven-serelogically distinct type of botulin toxin named as botulin- A, B, C, D, E, F and G. They prevent the release of acetylcholine from presynaptic nerve and neuro-muscular junction. Microbes *Clostridium perfringens, Staphylococcus, Salmonella, Bacillus cereus* etc. may be specially mentioned and very serious to human life.

Food additives: It is commonly expressed as food poison. We used chemicals and other additives in food and food source materials for improved them. The estimated sum of food-additive chemicals are more than 20,000. The additives are preservatives, antitoxicants, emulsifiers, stabilizers, thickeners, buffering, sequestering agents, colourents, flavouring agents, bleaching, maturing agents and nutrient supplements, non–nutritive sweeteners and anticaking agents. The

additives must be assessed for their potential effects of toxicity effects as acute or chronic, mutagenicity or carcinogenicity and teratogenicity. Here some important additives are as..

Colour additives: Some green vegetables are colored by using solutions of malachite green in water. Malachite green is synthetic dye. Chilli powder, tea etc. are colored red usually by congo red, turmeric is colored bright yellow with metanil yellow. Sometimes powdered turmeric has been observed to contain yellow and heavy lead chromate. All these additives are dangerous to human health. The prepared sweeteners are colored yellow with metalin yellow, a synthetic organic dye that are carcinogenic to human.

Coal-tar colours are employed mostly, pickles and canned vegetables are sometimes coloured green with copper salts, butter is made more yellow by anatta, and turmeric is used in mustard and some cereal preparations. Apples are the basis for many jellies, which are coloured to simulate finer ones. Apples are also waxed. In confectionery, dangerous colours such as chrome yellow, prussian blue, copper and arsenic compounds are used. Yellow and orange-coloured sweets are suspected. Artificial flavoring compounds are used in the concoction of fruit syrups and soda water. Milk is adulterated with water and so many contaminants and indirectly by removing the cream. The addition of water may introduce disease germs. Cream is adulterated with gelatin and formaldehyde is used as a preservative.. Butter is contaminated to an enormous extent with oleomargarine, a product of beef fat. Brick dust in chilli powder, coloured chalk powder in turmeric, injectable dyes in watermelon, peas, capsicum, brinjal, papaya seeds in black pepper etc are the common practices of additives in food or related materials.

Taste enhancer and additives: A common taste enhancer is used in Chinese foods. It is agino moto or monosodium glutamate. These additives may adversely affect the nervous system and cause depression and other disorders. Which have been named collectively as ‘Chinese restaurant syndrome’. Nitrites and metabisulphites are widely used as preservatives. The nitrite types of preservatives are responsible for the formation of carcinogenic chemicals like nitrosamines such as N-nitrosodimethyl amine, N-nitroso methanamine. Which are cancerous.

Water: Water is known as life. Water has been adequately chlorinated, by using the minimum recommended water standard provide protection against viral and bacterial waterborne diseases. However, chlorine treatment alone used in the routine disinfection of water, might not kill some enteric viruses and the parasitic organisms that cause giardiasis, amoebiasis, and cryptosporidiosis. Where

chlorinated tap water is not available or where hygiene and sanitation are poor, it is advised that follow be safe to drink, beverages, such as tea, coffee, boiled water, beer and wine. The safety of canned or bottled carbonated beverages, including carbonated bottled water and soft drinks is questionable nowadays. Education and research society of Ahmedabad found that 5 out of 6 samples of bottled water fell short of standard quality. Then how it safe for drinking, is a serious problem and seconds the governmental control is inadequate.

Soft drink and others: Soft drinks worth 42 billion dollars were sold throughout the world per annum. Soft drinks usually contain cocoa-extracts, which contain alkaloids. Use of phosphoric acid is known to harm bone and teeth with the used other unspecified chemicals. Recently, Center for Science and Environment (CSE), New Delhi had reported alarming concentrations of residual pesticides in 12 samples of pepsi and coca collected from markets in Delhi. Kerala and West Bengal have been found to contain large concentration of cadmium and others heavy metals. Not only soft drinks, but ice cream, jam, jelly etc. also are commonly colored, flavored and sweetened. The so-called 'mineral water' sold in bottles are not above question.

Food hazard: Pesticides and agrochemicals are now-a-days widely used in agriculture, plantations, etc. They are straight way toxic, some are bioaccumulated in specific organ of human through food chain. Dioxine is a derivatives of dioxin (TCDD) and remains as a byproducts in weedicides such as 2,4-D or 2,4,5-T. Dioxin is historically infamous. It was a component of Agent Orange- a devastating defoliant used by the US army in Vietnam in the 1960's.

GM food: It has added a new dimension related to our food. It is prepared by a recombinant DNA technology. Genetic modified (GM) food to be the panacea for any kind of food problem and scientist have been searching the potential danger related to GM food. Bt–gene (*Bacillus thuringensis*) is incorporated into tobacco and paddy. It was established that this gene- manipulation results in deposition of toxin (Bt-toxin) and render paddy unsuitable as paddy. In UK GM potato has been studied at length and was found that such potato weaken the immunity of experimental rats towards certain diseases. GM food may be strong allergens and causes other problems in the long run. It destroy and loss of biodiversity.

Bread: The bread we eat is a deleterious paste, mixed up with chalk, alum and bone ashes, increase the taste and destructive to the constitution. The aware people are not ignorant of this adulteration, but they prefer it to wholesome bread, because

it is white than the meal of corn (wheat). Thus, they sacrifice their taste and their health.

Health problems from tea:

Carcinogens in tea bags: Some tea bags are made up using a wet paper strength reinforcing coating using epichlorohydrin, which is known as carcinogenic. Uses are not limited to tea bags, as coffee filters, sausage/salami casing can have same issues. The problem can be avoided by using loose leaf tea or tea bags, which do not use coating.

Effect of fluoride: All tea leaves contain fluoride and mature leaves contains about 10 to 20 times more fluoride levels than the young leaves. While white tea contain less fluoride than green and black tea because it is made up of buds and young leaves only. The fluoride contain in tea depend up on fluoride contain in the soil in which it is grown. Tea plants absorb fluoride elements at a greater rate than other plants. The fluoride from tea, water or any other sources causes fluorosis in human. It is also essential for teeth and bones but at excess level, it is harmful.

Effect of caffeine: Caffeine is an addictive drug and over use of tea may result in side effects, such as sleep disorder. Decaffeination reduces total catechins in black and green dry tea about 15 and 3 times respectively. Black tea is a source of caffeine and some people are particularly susceptible to the caffeine and experience anxiety, palpitations and elevations in blood pressure. To reduce levels of caffeinsis to drink white tea in which is lower in caffeine or buy naturally decaffeinated black and green tea.

Oxalate: Oxalate is natural organic acids that can combine with calcium to produce calcium oxalate (kidney stones). Oxalate in tea causes a problem in most people, which could increase the risk of kidney stones. People who have a history of kidney stones should limit the tea and reduce the other dietary sources of oxalate.

Tannin: Tannin is in the form of polyphenols found in tea. It can reduce the absorption of iron, which could result in anemia. The vitamin C in lemon helps to offset the negative effect of tannin of mineral absorption.

Hot drinking temperature: Hot tea consumption has been lead to the risk for esophageal cancer. Risk was also significantly increased for drinking tea 2 to 3

minutes after pouring or less than 2 minutes after pouring, drinking tea at least 4 minutes after being poured.

Storage-packaging risks: Due to faulty storage techniques, tea leaves may develop fungal growth, which may not be distinguishable from normal tea leaves. The fungal growth may get dissolved in water when tea preparation and if consumed may cause various illness or allergies.

Conclusion and Suggestions

Fruits are being treated with artificial ripners to ripen them faster. Considering its hazardous aspects, the use of artificial ripper must be strictly monitored and controlled. It is the responsibility of the Government and scientist to aware people and avoids consuming contaminated fruits. The guilty must be punished to prevent further spread of such a harmful practice. Mass awarenessregarding this is an essential part of business. The fruit traders pick unripe fruits and use certain methods to increase the life of them. Valid and acceptable methods of using chemical are desirable in this regard. To avoid illness, we advised to select foods with care. All raw foods must be checked for contamination. It is advised to avoid salads, uncooked vegetables and unpasteurized milk and milk products. Undercooked, raw meat, fish and shellfish can carry various intestinal pathogens. Consumption of food and beverages obtained from street food vendors has been associated with an increased risk of illness so avoid it.

Food adulteration has become rampant due to inefficiency in Government-regulated quality assurance practices. The Departments of Health and Agriculture should realize the magnitude and gravity of the problem and check the practice of chemicals and the use of toxic colours in food products. Restrictions should be strictly imposed regarding procurement and selling of such banned compound to be used for these purposes. Vigilance at the wholesale markets should be strengthened to stop the practice. The consumer rights groups should raise the issue on the use of this banned chemical agent. Effective and better methods should be developed to prevent direct contact of the ripening substances with the fruits. New compounds, which are environmentally safe and are not harmful for human health must be discovered and tested. Government, concerned health authorities and law enforcing agencies should pay attention to this illegal practice of using carbide openly, which is occurring in many parts of Bangladesh. It is important to develop new and better technique of application, which prevents direct contact of the substance with the fruits. New compound, which are environmentally safe and ecofriendly.

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