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EDITORIAL

ALARMING SITUATION OF FOOD ADULTERATION

Food adulteration with poisonous chemicals has reached a dangerous level posing a serious health hazards in the country. Reports from recent newspaper say, the problem is now alarming and people are suffering from food phobia. They are eating less fruits and vegetables resulting in undernutrition, on the other hand they are putting them vulnerable to dreadful diseases by eating adulterated food.

National Situation: Two years ago, The Daily Star and RDRS (NGO) jointly organized a seminar on "Hazards of food contamination on national life". The speakers in the seminar opined, basic food items in the market like rice, fish, fruits, vegetables and sweetmeats are adulterated with hazardous chemicals in an indiscriminate manner in the country. Proportion of adulterated food items on the market varied between 70 to 90 percent. In a random survey by Public Health Laboratory of Dhaka Municipal Corporation in 2004, more than 76% food items on the market were found adulterated. A senior scientist of ICDDRB said formalin is applied on fish for preservation, calcium carbide on fruits to ripen, urea to whiten the puffed rice and textile dyes to beautify the sweetmeats. Poisonous colouring agent can damage liver and kidney, calcium carbide may lead to cancer in prostate and lungs and urea is dangerous for kidney. Consumers Association of Bangladesh (CAB) has long been complaining about the use of formalin on fish, tomato, mangoes, lichis and applications of carbide and growth regulators on banana and pineapple.

History: Since the ancient times, producers of food and drug products have attempted to alter their product in an attempt to get higher price for cheaper goods. In 1202, King John of England proclaimed the first English food law which prohibited adulteration of bread with peas and beans. With the advent of modern technology, food production and processing moved forward at an alarming pace. 'Canning line' in particular, increased the efficiency of food conservation in an industrial setting. Chemical additives were used to heighten colour, modify flavor and deter spoilage and even transform apple scraps, glucose and coal tar into a strawberry jam. American Congress enacted the 'food and drug' act on 1906. Therefore Food and Drug Administration (FDA) authority possesses significant power to regulate product manufacturing, importation and marketing for consumers. It governs what can or cannot be added to the products, how products should be labeled and how it can be safely handed over to consumers and public interest remains the topmost priority.

Global Scenario: The current horse meat scandal which was first exposed in Ireland has spreaded across Europe shows that modern food processing has created the opportunity to practice fraud on the consumers on a truly massive and international scale. A decade ago, bovine spongiform encephalopathy through adulteration of cooked meat products resulted in death of hundreds of people from variant of Creutzfeldt-Zacob disease.¹ International regulatory measures has limited its spread by preventing its entry into human food chain. FDA commissioner said, "There has been a perfect storm- more products, more manufacturers, more countries, and more access. A dramatic change in strategy must be implemented". In response to growing consumer concern, some dairies started to label their milk as 'rBGH-free' or no artificial growth hormone. Similarly GMO labeling alert the public for genetically modified food although argument in favour and against is going on.

Parents have long suspected that artificial food colourings and preservatives are linked to hyperactive behaviour in children. Recent trial tested a combination of sodium benzoate, sunset yellow, carmoisine and tartrazine, all commonly found in sweets and observed significant hyperactivity in children. Some addition of chemicals to food to preserve it and to enable it to be distributed in suitably processed forms is unavoidable. But only a fine line separates the use of chemicals for these reasons and the unnecessary adulteration of food for no reason other than profit.

In China, farmers in Fujian provinces were detained for selling carcasses as fake meat in roadside shops. In these cases suspects are accused of using gelatin, red pigment and nitrates to alter the dead pigs, ducks and rats.² Several cases of melamine contaminated milk products had been reported from three provinces in China in 2010. State media said the level of the toxic chemical melamine in samples was up to 500 times the permitted limit.

Food adulteration has become rampant in India. It starts from the field itself where fertilizers and pesticides are overused; therefore this contaminant is present across all range of food. More and more people are moving away to readymade fast foods and eating regularly at restaurants and nearly half of them are adulterated. However, the food should be safe and unfortunately there is little awareness among Indian public. In the National Survey conducted by the food safety and standards authority of India to ascertain the quality of milk in the country, 68 per cent samples were found to be non-conforming to food safety and standards regulations. The government has released state-wise details of non-conforming samples in the descending order of percentage with respect to the total samples collected in different states.³

Variants: Food contamination can be of various types- intentional, natural, negligent and accidental. Intentional contamination or adulteration is rampant and most dangerous such as-argemond seeds in mustard seeds (glaucoma), saw dust in tea (gastric upset), filth in pulses (gastritis), mineral oil in edible oil (cancer) and lead chromate in turmeric powder (paralysis). Natural contaminants are also injurious such as- fluoride in drinking water (teeth mottling), oxalic acid in spinach (renal calculi), polycyclic aromatic in smoked fish (cancer), asbestos in polished rice (cancer) and antibiotics in meat (drug resistance). Lack of knowledge in food processing can lead to negligent food contamination by chemicals (monosodium glutamate in Chinese food- brain damage, coumarine in flavoured food- clotting defect, Bromine in vegetable oil- cardiomegaly, Sulphite in preservatives- gastritis, and artificial sweetener in sweet meats-cancer). Microbial contamination due to negligence are: salmonella- typhoid, shigella- dysentery, Staphylococci- food poisoning, Clostridium botulinum- botulism and aspergillus flavus (aflatoxin)- liver damage. Chernobyl nuclear power explosion in 1986 released large quantities of

radioactive particles into the atmosphere, which spread over much of the USSR and Europe leading to accidental food contamination particularly affecting dairy products.

Intervention: In the face of enormous problem, BSTI (Bangladesh Standard and Testing institute) and various bodies of the Government has taken inadequate measures to enforce the existing law 'Safe Food Act 2005'. The minister for law affairs said, "it is not solely a government responsibility to check food adulteration. All citizens have the right to sue the food adulterators". Two years ago, FAO assessed the capacities of different ministries in food quality monitoring and revealed food inspection in Bangladesh is not based on risk assessment and inspection does not cover the entire food chain. Limited coordination and communication between agencies has been identified as the main deterrent for the present challenges.⁴ In September 2013, cabinet approved a law on food safety with a provision of 5 years imprisonment or a fine of taka 5 lakh or both for persons guilty of food adulteration. It was also agreed that if anyone repeated the offence, the punishment would double. It also proposed forming BFSa (Bangladesh Food Safety Authority) to ensure quality of food from farm to fork and from production to packaging.⁵

The number of cancer patients, heart and kidney disease are sharply increasing as a result of food adulteration and taking heavy toll on public lives. The best way to avoid this health problem is prevention. Therefore it is high time, the people, health expert and the government should declare war against food adulteration. Consumption of safe and quality food needs quality control at each level- production, storing, marketing and consumption. Several organizations should be activated- supporting civil society organizations, sensitizing policymakers, awareness building within media on food safety issues and promoting food safety as a culture. It is important for the consumers as well, not to shrug off the responsibility too quickly to the law enforcements and courts, because the solution is interdisciplinary and complex. Self alertness is mandatory to procure any food stuff. It is prudent that every physician should take special interest in this subject and educate our friends and families about this menace.

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