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Need for Common Regulatory Guidelines for Food Safety – A Global Perspective

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Editorial

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In human life, food intake is magnanimous in term of quantity, duration and frequency as compared to medicines. Unlike olden days, now a days, newer foods and their processing patterns, is steering us into complicated health issues. Most of these health problems are hidden, and were always have been interpreted as common health issues instead as food induced. Recent studies revealed that fast and junk foods are hidden cause for copious health hazards like depression, gastritis, obesity, stroke, diabetes, artery damage, constipation, irritable syndromes, and insomnia. National institute of Health (NIH) stated that fast and junk food induces insulin resistant diabetes and obesity especially in children who eat fast food quite often. The corporate accountability international (CAI), also stated that one-third of human cancers are due to the poor diet in terms of food quality, cooking pattern, unknown toxic substance formed during cooking and preservation. The food induced obesity is closely linked with cancers of the colon, kidney and esophagus too. Review of reports, substantiated the psychological addiction and poor lipid profile in children due to fast and junk foods. The 'American Journal of Public Health' recently conducted a study and concluded that hospital food is "a largely untapped resource for public health that may help to arrest increasing rates of obesity, heart disease, diabetes, cancer and other diet related health issues due," means the use of vegetable and fruits prevents diseases and cooked food always a risk. At a global perspective, regulation on control and monitoring of food hazards is initiated but at primitive stage. Many underdeveloped countries do not have regulations too.

A glance at regulatory framework for the practice and use of traditional and alternative medicines, revealed that many countries have undertaken initiative move to develop national policy, pharmacopoeia and monographs on herbal medicines. It was also insisted that manufacturing and safety assessment are required to be similar that of good manufacturing practice (GMP) rules as those used by conventional pharmaceuticals. As per World health organization (WHO) survey, 65% of member states have laws or regulations on herbal medicines similar to those of conventional medicines. Compared to the toxicity of traditional medicine, food toxicity and poisoning are statistically significant and affect population in many folds. On the other hand, regulatory bodies like Food and drug administration (FDA), International conference on Harmonization (ICH) and European medicines agency (EMA) are very stringent on impurity levels in pharmaceuticals, and toxicological profile for impurity more than 0.1 % is mandatory along with permissible daily exposure (PDE), gene toxicity and carcinogenicity data. But these regulations have to be considered for all unknown toxicants of food too.

The Federal Food, Drug, and Cosmetic Act (1938) stated that the food adulterated, " if it bears or contains any "poisonous or deleterious substance" which may render it injurious to health; and/or if it bears or contains any added poisonous or added deleterious substance (other than a pesticide residue, food additive, color additive, or new animal drug, which are covered by separate provisions) that is unsafe; and /or its container is composed, in whole or in part, of any poisonous or deleterious

substance which may render the contents injurious to health; and /or it bears or contains a pesticide chemical residue that is unsafe". Further, food is considered adulterated "if it has been irradiated and the irradiation processing was not done in conformity with a regulation permitting irradiation of the food in question". According to the definition, the intake of junk and fast foods to be controlled and monitored due to their potential hazardous chemicals at significant quantities especially after cooking. It is evident that toxicity of processed food is due to the modern cooking pattern like overheating, repeated heating, and use of modern heating sources. Of course FDA has outlined the heating temperature and time for several food products, but the present scenario of food related health hazard at global view, implicating that implementation strategy of regulations is not adequate and is not been extended throughout the globe.

Vast numbers of studies have been conducted on chemical constitution of raw food materials like vegetables, fruits, meat etc. But the existing knowledge on thermal labile nature and degradation profile of key food constituents is trivial. Hence the qualitative and quantitative aspects of toxicants formed while food processing is deceptive regardless of constituent nature in raw food. For example "Trans fatty acid", the U.S. Food and Drug Administration (FDA) completed a pilot determination that partially hydrogenated oils (containing Trans-fat) are no longer "Generally Recognized as Safe" (GRAS) in human food.

In fact there are acts like Federal Meat Inspection Act, Poultry Products Inspection Act as well as Center for Food Safety and Applied Nutrition (CFSAN) for defect action levels (DALs), implemented in United States to control diet related hazards. As an extension by considering the intensity of acute and chronic diet related health hazards at globe, a common regulatory guideline on food process as well as on quality of junk and fast food has to be imposed by appropriate regulatory bodies of all nations to avoid increasing diet related health issues. It can be initiated with an inspection of food processing time, temperature using toxic components levels (Trans-fatty acids, acrolein, acrylamides etc.) as markers. In addition, research may be encouraged to establish food degradation and toxicity profile for dietary constituents of most commonly used vegetables, fruits, meats, proteins, fats and grains etc.