Enhancing food safety management in Taiwan

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Taiwan Food and Drug Administration science-based food safety management

The global food system is being transformed because of increasing trade and travel, changes in agricultural and animal production practices, bacterial resistance to antibiotics, and continuous technology development processes. More food safety issues have arisen in recent years, accompanied by high public concern; thus, food safety has become a new challenge to governments worldwide.

In response to multiple food safety issues, the Taiwan Food and Drug Administration (TFDA) was first inaugurated on January 1, 2010. This action was accomplished through reorganization of the Department of Health (DOH). The consensus for better integrating the science of risk assessment into management decisions was depicted first by the “Food Safety and Nutrition White Paper” published in 2008. In 2012, the TFDA adopted the Codex Alimentarius Commission working principles used for food safety risk analysis for application by governments.

First, a food safety management system was established. The policy side included law and regulation formulation, standards setting, and risk management components. Analytical methods were included as important tools for checking compliance and management decisions. Managerial support has been strengthened through an accreditation process. The compliance components included market monitoring, border inspection, and source management in relation to the food industry. These compliance components comprised implementation of good hygienic practice, hazard analysis and critical control points, and a food traceability system. In addition, a more comprehensive consumer education and communication program has been set up. The TFDA divisions work in coordination to form the data-driven and risk-based management system as shown in Fig. 1. This management system has both functioned and guided the TFDA through the plasticizer contamination incident in 2011. The experience has built confidence and shown what further improvements were needed. For example, the emergency response standard operation procedure has been revised several times.

Second, food safety risk assessment projects were commissioned. Universities and research institutes have joined the TFDA to form the risk assessment task force. The most prominent concerns include the study and risk assessment of food-related preservatives as well as contaminants such as dioxins, perfluorocarbons, polybrominated diphenyl ethers, heavy metals, mycotoxins, marine toxins, histamines, and pesticide residues. The results have been used for management decisions. Most findings have been published in peer-reviewed journals such as the Journal of Food and Drug Analysis.

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A research project developed a national food consumption database for Taiwan. It is based on the most recent decade-long national nutrition survey data on food consumption of more than 9000 individuals. The database has been placed on the website (http://intakes.nhri.org.tw/) for public use and for research. This database is expected to set the groundwork for more accurate assessment of dietary exposure of toxicants and nutrients in the Taiwanese population.

Third, partnerships and collaborations with outside experts and institutions have formed an important strategy. Nine expert consultation committees and five professional associations or research institutions have been involved with the study. This included experts in each targeted area of food safety. The food safety risk assessment committee members included not only scientific experts from various academic disciplines, but also nongovernmental organization representatives. To further collaborate with the TFDA, the National Health Research Institute of the DOH established its National Environmental Toxicants Research Center. Research projects continue to study the health effect of plasticizers on high-risk groups. There are also other food contaminant studies of concern and possible health implications. The National Food Safety Education and Research Center at National Taiwan University was established in August 2012 as a platform supporting TFDA. This provides professional training and capacity-building programs related to food safety risk analysis.

New food safety issues may continue to come to light in the future, and a preventive approach based on risk prioritization is under development. In reference to the European Union’s General Food Law Regulation (EC) 178/2002 and also the United States of America’s Food Safety Modernization Act, the risk assessment was integrated into Taiwan’s Revised Act Governing Food Sanitation, which was promulgated on June 19, 2013. As stipulated in the Act, actions taken by the competent authority shall align with scientific evidence, precaution, and information transparency principles by establishing a risk assessment system. When necessary, the central competence authority may take measures based on either risk assessment or an epidemiological survey. To support act enforcement, action plans have been formulated by the TFDA that include mandatory registration of designated food industries, heavier fines in response to noncompliance, recovery of unjust profit, source management on raw material, establishment of a food traceability system, labeling of all ingredients, encouraging and rewarding the active reporting of illegal food processing practice, integration of central and local governmental agencies to establish a food safety surveillance and control center, studies for establishing a food safety fund, enhancing expert consultation, and establishing mechanisms for participation of private organizations. The amended act and enforcement measures will support stronger food safety management in Taiwan.
References