

Epidemio-Surveillance of Food-Borne Diseases and Food Safety Rapid Alert Systems

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An adequate and safe food supply is critical for normal growth and development and to maintain health across the life span. Although the true global incidence of food-borne diseases is difficult to estimate, it is clear that many people fall ill and die as a result of eating unsafe food. Surveillance of food-borne disease is an important tool for maintaining the safety of the food supply. It is instrumental in estimating the burden of food-borne diseases, identifying public health priorities, evaluating disease prevention and control programmes and assessing the relative cost of control measures. It allows rapid detection and response to disease outbreaks and helps identify emerging food safety issues and research needs. In addition, it is a major source of information for conducting risk assessment as part of the new risk analysis framework.

Countries differ in their public health systems, giving rise to a wide variation in national surveillance systems including surveillance systems for food-borne diseases. Notably, in many countries the disease surveillance systems do not necessarily focus on food-borne diseases. This paper provides a description of the important aspects of a well-functioning food-borne disease surveillance system including its link to rapid alert systems in the food safety arena. For the purpose of this paper food-borne disease surveillance is defined as the ongoing systematic collection, collation, analysis, interpretation and use of information relevant to the assessment, prevention and control of food-borne disease. This includes epidemiological and microbiological information about pathogens and toxins in food animals and foods, sometimes referred to as monitoring .

Many countries have well developed, established surveillance systems for monitoring food and the environment for chemical contaminants such as dioxins, PCBs, heavy metals and residues of pesticides and veterinary drugs. Surveillance systems directed at food-borne pathogens are more recent as are microbiological risk assessments and pathogen reduction programmes. The development of a comprehensive food safety surveillance framework not only enables the continued assurance of food safety regarding known chemicals and pathogens, but provides a mechanism to protect against emerging hazards.

The application of modern biotechnology to food production presents new opportunities and challenges for human health. The potential benefits to consumers include enhancing the nutrient content of foods, decreasing their allergenic potential, and improving the efficiency of food production. On the other hand, the potential effects on human health of the consumption of food produced through genetic modification must be carefully examined. Modern biotechnology must be thoroughly evaluated if it is to bring about a true improvement in our way of producing food.

References:

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