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Editorial

Scientific method for food safety

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EDITORIAL NOTE

Food safety is employed as a scientific method/discipline describing handling, preparation, and storage of food in ways in which prevent food-borne illness. The occurrence of two or more cases of an identical illnesses resulting from the ingestion of a standard food is understood as a food-borne disease outbreak.

This includes variety of routines that ought to be followed to avoid potential health hazards. In this way, food safety often overlaps with food defense to stop harm to consumers. The tracks within this line of thought are safety between industry and therefore the refore the market then between the market and the consumer.

In considering industry to plug practices, food safety considerations include the origins of food including the practices concerning food labeling, food hygiene, food additives and pesticide residues, as well as policies on biotechnology and food and guidelines for the management of governmental import and export inspection and certification systems for foods.

CONSIDERING MARKET TO CONSUMER PRACTICES

In considering market to consumer practices, the standard thought is that food need to be safe within the market and therefore the concern is safe delivery and preparation of the food for the consumer.

Food can transmit pathogens which may end in the illness or death of the person or other animals. The main sorts of pathogens are bacteria, viruses, mold, and fungus. Food also can function a growth and reproductive medium for pathogens. In developed countries there are intricate standards for food preparation, whereas in lesser developed countries there are fewer standards and fewer enforcement of these standards.

Another main issue is just the supply of adequate safe water, which is typically a critical item within the spreading of diseases. In theory, food poisoning is 100% preventable. However this can't be achieved thanks to the amount of persons involved within the supply chain, also because the incontrovertible fact that pathogens are often introduced into foods no matter how many precautions are taken. The five key principles of food hygiene, consistent with WHO, are

- Prevent contaminating food with pathogens spreading from people, pets, and pests.
- Separate raw and cooked foods to prevent contaminating the cooked foods.
- Cook foods for the appropriate length of time and at the appropriate temperature to kill pathogens.
- Store food at the proper temperature.
- Use safe water and safe raw materials.

Food contamination

Food contamination happens when foods are corrupted with another substance. It can happen within the process of production, transportation, packaging, storage, sales, and cooking process. Contamination can be physical, chemical, or biological.

Physical contamination

Physical contaminants (or 'foreign bodies') are objects like hair, plant stalks or pieces of plastic and metal. When a far off object enters food, it's a physical contaminant. If the foreign objects are bacteria, both a physical and biological contamination will occur.

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Common sources of physical contaminations are: hair, glass or metal, pests, jewelry, dirt, and fingernails.

Chemical contamination

Chemical contamination happens when food is contaminated with a natural or artificial chemical substance. Common sources of chemical contamination can include: pesticides, herbicides, veterinary drugs, contamination from environmental sources (water, air or soil pollution), cross-contamination during food processing, migration from food packaging materials, presence of natural toxins, or use of unapproved food additives and adulterants.

Biological contamination

Biological contamination refers to food that has been contaminated by substances produced by living creatures, such as humans, rodents, pests or microorganisms.This includes bacterial contamination, viral contamination, or parasite contamination that is transferred through saliva, pest droppings, blood or faecal matter . Bacterial contamination is the most common cause of food poisoning worldwide. If an environment is high in starch or protein, water, oxygen, features a neutral pH level, and maintains a temperature between 5°C and 60°C (danger zone) for even a brief period of time (~0–20 minutes), bacteria are likely to survive.