

Environment health Activity

Safe food is essential for our health and well-being, but each year it's estimated that 600 million people get sick and 420,000 people died because of contaminated food. **food safety** an important public health issue so **what** makes food unsafe **how** it happens **what it leads** to and how we can **prevent** it

1. What → Contaminants

Contaminants: Biological → Micro-organism

1. Bacteria

2. Viruses

3. Parasites

4. Fungi

↳ (A) Biological

some of these can produce **toxins**

illness ← lead ←

* Prions → Protein potential cause severe disease

(B) Chemicals: 1. heavy metals 2. compounds 3. Detergent

(C) Physical: 1. Plastic 2. Stones 3. Glass

Contamination can happen at any number of points to add to the complexity is increased **globalization** which means that food source from many different countries.

besides contamination other ways that food could be potentially **harmful** or if it is **not labeled** properly. This is a concern for people who have food, **allergies** or potentially from consuming **food past its expiry date**.

2. HOW

* **Food supply chain**: getting food where it is produced to where it is consumed requires several steps.

1. **Production**: raising animals/growing the plants that we used for food, some caught/harvested from the wild

2. **Processing**: Plants, animals or there products converted & packaged into a form we buy as food.

3. **Distribution**: where the food gets from the farm to the consumer thru retail stores

4. **Preparation**: getting food ready to eat

1. Production:

* contamination can happen if animals are infected & transmit pathogens to their meat/animal products: eggs/milk

* If water used to irrigate fruits & vegetables contain pathogen/chemicals

* Use of Pesticides which can lead to toxic pesticide residues in food

2. Processing:

* During the Slaughtering Process
if the Pathogen from animals GI system



contaminate the meat Product

↳ during processing: Pathogens/chemical/
physical contaminate → Glass



could enter food

for ex: contaminated water / surfaces not
cleaned

* food adulteration is the fraudulent
Practise → unnecessary, inferior,
toxic chemical added to food
↳ to improve appearance, taste,
Reduce cost, last longer.

3. Effects

Contaminated food > 200 diseases

Depends on type of contamination



Range symptoms:

1. Asymptomatic 2. severe disease 3. Death

Biological contaminants:

1. fever 2. Abdominal Pain 3. Nausea

4. vomiting 5. diarrhoea } hours - days

Complication:

1. Kidney failure 2. Arthritis 3. Miscarriage

A.

Toxins → Gastrointestinal disease

1. Paralysis 2. cancer

3. Distribution:

* by unclean/unsafe storage lead
to biological, chemical, physical contaminant.

* Pests → rats, insects, birds that can
introduce Pathogens / Physical contaminant
hair/droppings

* Poor temperature control

4. Preparation

* Unclean hands

* cross contamination → using same
knife in cooking

* Cooking food to the not right temperature

* sick food handlers

B. Prions → fatal neurological disease

Chemical compounds: Short or long term
can impact many organs → Cancer

Physical contaminants: injury or introduce
another types of contaminants

* High risk groups

- 1. Elderly > 65 yrs
- 2. children < 5 yrs
- 3. Pregnant women
- 4. immunocompromised

* unsafe food → 1. Economy 2. food security
3. antimicrobial resistance

4. Prevention → complex → requires action at all levels

1. Global level: WHO → world health organization

FAO → food and Agriculture organization

forex: CODEX alimentarius: collection of international standards, guidelines, codes, practise

INFOSAN: global network of national that share information & collaborates on food safety

2. National level: food codes & standards & manufacturing practise also for surveillance & mangement of foodborne illness & outbreaks.

3. Industry: food safety at all stages of supply chain

include: compliance, quality assurance, staff training, food safety management system

analysis & critical control point ← HACCP
& identify potential food hazards

like

4. Individual level

1. Keep clean

2. Separate raw & cooked food

3. Cooking thoroughly

4. Safe temperature

5. Safe water/raw materials