

Understanding concept of food poisoning –need of hour

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ABSTRACT

Food poisoning is an acute illness, usually of sudden onset, brought about by eating contaminated or poisonous food. **Origin of Infection:** It can be found in undercooked ground beef, raw milk, and impure water (Sewage contamination). It has also been found in chopped lettuce and spinach. The symptoms normally include abdominal pain, diarrhea, nausea, vomiting and fever. Symptoms can vary depending on the source of the infection. The length of time it takes for symptoms to appear also depends on the source of the infection, but it can range from as little as 1 hour to as long as 28 days. In this article an attempt has been made to compile the concepts of food poisoning

Keywords: Food poisoning, Need of hour, e-coli, pathogen

INTRODUCTION

Food poisoning is defined as an illness caused by the consumption of food or water contaminated with bacteria and/or their toxins, or with parasites, viruses, or chemicals. The most common pathogens

are *Norovirus*, *Escherichia coli*, *Salmonella*, *Clostridium perfringens*, *Campylobacter*, and *Staphylococcus aureus*.

Classification of food borne diseases:

Food borne diseases are classified into: 1. Food borne infections 2. Food borne intoxications

Food borne infection

Food borne infection: is caused by the ingestion of food containing live bacteria which grow and establish themselves in the human intestinal tract. Food borne infections tend to have long incubation periods and are usually characterized by fever.

- These can either be Bacterial, Viral, and Parasitic.
- **Bacterial food borne infections -** Bacteria are the most troublesome and important biological food borne hazard for the foodservice and food retail Establishment. Bacterial cells can exist in two different states: - the vegetative state. - The spore state. Spores are

produced when the bacterial cell is in an environment where it cannot grow (frozen foods, dried foods)

- **Escherichia coli** The *Escherichia coli* (or *E. coli*) group of bacteria includes four strains of foodborne pathogens: enterotoxigenic *E. coli*, enteropathogenic *E. coli*, enterohemorrhagic *E. coli*, enteroinvasive *E. coli*. The most important of the group is a particular type of enterohemorrhagic *E. coli* called *E. coli* O157:H7 - Illness can be due to an infection and a toxico-infection. - Illness due to *E. coli* O157:H7 is particularly serious in infants because it can cause kidney failure and bloody diarrhoea.
- **Common foods:** This microorganism has been isolated

from raw milk and raw ground beef.

- **Transmission in foods:** *E. coli* is usually transferred to foods like beef by contact with the intestines of animals. Transmission can also occur if employees are carriers and do not wash their hands properly after going to the bathroom.

- **Viral food borne infections**

Food borne viruses differ from food borne bacteria. They are the smallest and simplest form of life known. Unlike bacteria, they do not reproduce or grow in foods. They are usually transferred from one food to another, from a food handler to a food, or from a water supply to a food.

Type of food poisoning	Source of bacteria	onset time	Symptoms
Salmonella	raw meat, eggs, poultry ,animals	6-72 hrs	Abdominal pains, diarrhoea, fever, vomiting, dehydration
Clostridium perfringens	raw meat, soil, excreta, insects	8-72hrs	Abdominal pains , diarrhoea
Staphylococcus aureus	skin, nose, boils, cuts, raw milk	1-6 hrs	vomiting, abdominal pains, decreased temperature than normal

Food borne intoxications

- **Food borne intoxication:** is caused by ingesting food containing toxins formed by bacteria which resulted from the bacterial growth in the food item. The live microorganism does not have to be consumed.

Concept of Environmental Sources

-Water -Food-borne diseases are also carried by contaminated water.

-Soil - Dust and dirt is made up from soil. It is easily blown on to food after being carried into the kitchen on clothes and shoes; soil contains the food

poisoning bacterium clostridium perfringens as well as many others.

-Insects - Insects carry bacteria on their bodies. Crawling insects such as cockroaches beetles and flies.

-Kitchen surfaces & Utensils

Concept of Faulty Cooking Methods

1. Food prepared too far in advance, and stored at warm temperature.
2. Cooling food too slowly prior to refrigeration.
3. Not reheating food to high enough temperatures to destroy food poisoning bacteria.
4. The use of cooked food contaminated with food poisoning bacteria.
5. Under cooking.
6. Not thawing frozen poultry and meat for sufficient length of time.

High-Risk Foods

- Cooked poultry
- Cooked meats
- Dairy produce (milk, cream, etc.)
- Soups, sauces and stocks
- Shellfish, sea food
- Cooked rice
- Dishes containing eggs.

Low-Risk Foods

- Dried or pickled Foods
- Chemically-preserved foods
- Foods with high sugar content
- Food with high salt content

Control Measures:-

- Cook food thoroughly
- Handle food as little as possible
- Try not to prepare food in advance
- Keep food covered at all times
- Store food at safe temperatures below 5°C or above 63°C.
- Do not keep food in the temperature (5°C to 63°C danger zone)
- Keep raw and cooked foods separate.
- Avoid re-heating food.
- Prevent dry foods from becoming moist.
- Dispose waste food and other rubbish carefully.
- Keep bins covered.
- Keep all animals and insects away from food places.
- Keep everything as clean as possible.
- Seek advice if you feel ill, especially if you are suffering from diarrhea or vomiting.

CONCLUSION:

- Metals and metallic compounds, Pesticides and some food additives have found a nature of accumulations within the living body when it exposed since prolonged period persistent.

- **There are two type of bacteria that cause major problems in the food industry:**

Spoilage bacteria - responsible for the decomposition of food.

Pathogenic bacteria - responsible for causing illness such as dysentery, typhoid and food poisoning.

- **Household precautions by FDA recommendations for washing and handling food-Rinse** raw produce, such as fruits and vegetables, thoroughly under running tap water before eating, cutting, or cooking. Even if the produce will be peeled, it should still be washed first. **Scrub** firm produce, such as melons and cucumbers, with a clean produce brush. **Dry** the produce with a clean cloth or paper towel. **Separate** uncooked meats and poultry from vegetables, cooked foods, and ready-to-eat foods.
- Various programs should be conducted for Good Food Handling Practices are the Most Important Aspect of Food Hygiene. Get the Practices Right, Keep them Right, and Achieve Food Safety.
- To ensure chemical safety, a framework for prevention and

management of eventualities if any, is provided by the Poisons Control Programme of which Poisons Information Centre is an integral part.

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