Food safety: Information for soup kitchens

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Carol Browne DC Hunger Alleviation October 2019.

Food Safety in Soup Kitchens

Many Not for Profit Organisations (NPOs) run Soup Kitchens or Food Pantries as part of their social outreach commitment. Most are run by dedicated volunteers, but they may not have received training to assist them to provide a SAFE food service.

I have prepared this leaflet to assist Soup Kitchens to follow food safety guidelines. Soup Kitchens rely on donations, this raises many issues. The history of the food may not be known, including storage, cooking and transport.

My primary source of information is a document published by the World Health Organization, "Five Keys of Food Safety". I have also drawn from material that I have written as a nutrition consultant in the line of my work.

Some are common sense, but others may not be as obvious. An understanding of the ways in which food is contaminated helps people to understand the logic of the 5 Keys of Food Safety.

1. Contamination of food: what, when and how?

Unsafe food has been a human health problem since history was first recorded and many food safety problems encountered today are not new. Governments are doing their best to improve the safety of the food supply, but the occurrence of food borne disease remains a significant health issue.

It is estimated that each year 1.8 million people die as a result of diarrhoeal disease; most of these cases can be contributed to contaminated food or water. Proper food preparation can prevent most food borne diseases.

Food and water can be contaminated with microorganisms (germs) and compounds they produce (e.g. aflotoxins) and / or with toxic chemicals (poisons).

1.1. About micro-organisms.

Microorganisms are very small living organisms, so small that they can only be seen under a microscope. Ten thousand bacteria side by side will take up 1 cm of space. There are different types of microorganisms, including bacteria, viruses, yeasts, moulds and protozoa. Some microorganisms are useful; others can be harmful.

Good microorganisms (non-pathogenic):

- Are used to make food and drinks like cheese, yoghurt, beer and wine
- Live in our gut and help digest food and promote immunity (probiotics)
- Help make medicine e.g. penicillin

Bad microorganisms, or spoilage microorganisms, do not usually make people sick, but they can cause food to smell and taste bad.

Dangerous microorganisms make people sick, and can cause death. They are called pathogens. Most of these will not change the appearance of food. Examples of dangerous food borne microorganisms include bacteria (*Salmonella*), protozoa (*Giardia*), and viruses (Norovirus).

Microorganisms are everywhere, but are mostly found in:

- Faeces
- Soil and water
- Rats, mice, insects, cockroaches, pests
- Domestic, marine and farm animals
- People (gut, mouth, nose, hands, fingernails, skin, hair)

Microorganisms rely on someone or something to move them around. The movement of microorganisms from one surface to another is called contamination. Hands are a common means of moving microorganisms; they can also be spread through contaminated food, water, utensils. If a food handler is infected with a bacteria or virus and continues to prepare food, the bacteria or virus may be passed to consumers via the food.

Most microorganisms grow by multiplication. To multiply they need:

- Food
- Water
- Time
- Warmth

Bacteria multiply by cell division. One bacterial cell can divide into two separate cells in just 15 minutes. This means that within 6 hours, 1 bacterium can multiply to many million. To be harmful some bacteria need to grow to very high levels, others can cause illness when they are present in low numbers.

When conditions change and are unfavourable for some bacteria, they go into a type of hibernation state and form an outside covering called a spore. A spore is in a dormant state. Spores are very resilient; when conditions improve the bacteria will once again become active. Disinfection does not kill spores but does get rid of bacteria, only sterilisation kills bacteria and destroys spores.

Some bacteria can be found in a biofilm. The bacteria attach to a surface, and then form a substance which can protect them. This can be described as a slime layer that develops naturally when bacteria congregate on surfaces. *Enterobacter sakazakii* is a bacteria that is potentially present in infant formula. It has been reported to form biofilms on silicon, latex, stainless steel, glass and polyvinyl chloride (PVC). The formation of biofilms by *E.sakazakii* may be a reason why it is so persistent on surfaces, such as infant feeding bottles. Ineffective cleaning of bottles and utensils could enable the bacterium to accumulate and serve as a source of infection.

2. Prevent food-borne illness

The primary indicators of 'food poisoning' are upset stomach, nausea, diarrhoea, fever or cramps. Some people are more vulnerable than other to developing symptoms after eating contaminated food. This includes babies and young children, the elderly, pregnant women and people with compromised immune systems. Fortunately 'food poisoning' can usually be prevented.

2.1. Keep clean

While most microorganisms do not cause disease, dangerous microorganisms are found widely in soil, water, animals and humans. These microorganisms are carried on hands, wiping cloths and utensils, and especially cutting boards. The slightest contact can transfer the microorganisms to food and cause food borne diseases.

- Keep your hands clean:
  - Wash all surfaces of your hands with soap and water. Rinse and dry with a clean towel or paper towel.
  - Wash hands before food handling and often during food preparation.
  - Wash your hands after going to the toilet and changing babies' nappies.
  - The combination of soap and water helps remove grease, germs and dirt. A bucket and basin can be used when a dedicated hand wash basin is not available.
  - Make hand washing facilities available to your clients to use before they eat.
  - While washing with soap and water is ideal, people who do not have access to soap can use ash from a fire as a substitute for soap.

- Keep everything clean, just because it looks clean does not mean it is!
  - Wash and sanitise all surfaces and equipment used for food preparation.
  - Wash crockery and cutlery and ensure they are dry before being stacked for storage.
  - Wash and sanitise tea towels, cleaning cloths and aprons daily, and if possible dry in the sun.
  - Cleaning refers to removing visible dirt, sanitising kills most germs. A sanitising solution can be made by mixing 1 teaspoon of plain beach with 750 mℓ of water.

- Protect kitchen areas and food from insects, pests and other animals:
  - Keep food covered or in closed containers.
  - Keep rubbish bins covered and remove rubbish regularly.
  - Use traps or bats to kill pests, ensure that they are appropriate for use in food service areas.

2.2. Separate raw and cooked food

Raw food, especially meat, poultry and seafood and their juices, can contain dangerous microorganisms which may be transferred to other foods during food preparation and storage. This is one form of cross contamination.

SEPARATE RAW AND COOKED

- Separate raw meat, poultry and seafood from other foods.
- Use separate equipment such as knives and cutting board for handling raw foods.
  - Wash these thoroughly immediately after use.
- Store food in containers to avoid contact between raw and prepared foods.

2.3. Cook thoroughly

Proper cooking can kill almost all dangerous microorganisms. Studies have shown that cooking food to a temperature of 70 °C can help ensure it is safe for consumption. Foods that require special attention include minced meats, rolled roasts, large joints of meat, and poultry.

- Cook food thoroughly, especially meat, poultry, eggs and seafood.
- Bring foods like soups and stews to boiling and make sure that they have reached 70 °C. For meat and poultry make sure that juices are clear, not pink.
- Reheat cooked food thoroughly until the internal part is hot (left overs).

COOK THOROUGHLY

2.4. Keep food at safe temperatures

Microorganisms can multiply quickly if food is stored at room temperature. If food is kept below 5 °C or above 60 °C the growth of microorganisms is slowed down or stopped.

- Refrigerate promptly all cooked and perishable food.
- Keep cooked food piping hot.
- Do not store food too long, even in the refrigerator.
- Do not thaw frozen food at room temperature.
- Check the temperature of the fridge, and if it is not below 5°C do not rely on it to keep foods cold enough to improve food safety.
- When cooked food is donated be sure to heat it thoroughly before serving.

KEEP FOOD AT SAFE TEMPERATURES

2.5. Use safe water and raw materials

Safe means that water and food is free from dangerous microorganisms and toxic chemicals at levels that could cause illness and / or disease.

- Do not accept donated foods that may be contaminated.
- Use safe water, or treat it to make it safe
- Select fresh and wholesome foods
- Choose foods processed for safety – such as pasteurised milk
- Wash vegetables and fruit, especially if eaten raw
- Do not use food beyond its expiry date
- Rotate food in the pantry, use the manufacturers use by date to decide which to use first.
- If cooked foods are accepted you must be sure that the preparation venue follows 'safe food' rules, and that the food is freshly prepared.
- Do not use 'left overs' more than once, if left overs are served and not used up the remainder must be discarded.
- Think twice before mixing left overs with fresh produce, if there are left overs the whole lot must be discarded.