You Can Prevent Food-borne Illness

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Introduction

Food borne illness causes a significant burden of illness globally. Most of the cases, which come to the attention of health authorities, are due to poor food safety practices in their homes.

A study performed in Malta on consumer awareness, has shown that persons who themselves or a dependent have been exposed to a form of food borne illness had a higher level of awareness to certain elements of food safety awareness. However, persons need to be convinced that food safety measures do have an effect before they will actually act upon the messages.

The aim of this booklet is to emphasize the burden of food borne illness, making the safe food handling practices described meaningful.

I encourage consumers to keep this booklet at hand and to go through it frequently since continuous enforcement of the messages contained in this booklet can be effective in empowering behaviour change.

Finally, but not least, food is there to be enjoyed and traditionally we Maltese love to entertain others by serving food, so do enjoy food but take care to keep yourself and your family healthy.

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Food-borne Illness

What is food borne illness

Food borne illness, commonly called food poisoning, occurs when a person gets sick by eating food that has been contaminated with an unwanted microorganism or pathogen.

Common symptoms

Food borne illness is a great master of disguise and is often mistaken for the stomach flu since many symptoms are similar. These include stomach pain, diarrhoea, nausea, chills and headache.

Complications

However some microbial pathogens give rise to diseases that are serious with immediate consequences such as spontaneous abortion as well as lasting conditions such as reactive arthritis, Guillian Barre' syndrome, haemolytic uraemic syndrome. In some cases, food borne illness can be fatal. Age and physical condition place some persons at a higher risk than others, no matter what type of bacteria is implicated. Infants, pregnant women, the elderly and people with compromised immune systems are at greatest risk from any pathogen. Some persons may become ill after ingesting only a few harmful bacteria whilst others may remain symptom free after ingesting thousands.

Potential victims

In Malta about 700 persons are known to suffer from food borne illness every year although this number does not include those persons who do not seek help of their doctor for their illness hence it is an underestimate. World wide, an estimated 2.2 million people die from diarrhoeal diseases.

Food borne illness causes a large economic burden. In the United Kingdom it is estimated that infectious intestinal disease would cost about Stg 9.5 million per year.

Bacteria causing food borne illness

The following are four of the major bacteria, which are microscopic organisms that can spread through improper food handling and cross contamination.

Salmonella: lives in the intestinal tracts of human and other animals. Salmonellae are usually transmitted to humans by eating foods contaminated with animal faeces. Contaminated foods are often of animal origin such as raw meat, poultry, milk or eggs but all foods including vegetables can become contaminated.

Eschericia Coli 0157:H7 (E. Coli): Most often found in raw ground beef.

Staphylococcus aureus: Staph bacteria are found on the outside of infected cuts and pimples and in our noses and throats. They multiply rapidly at warm temperatures to produce a toxin that causes illness.

Campylobacter jejuni: may be present in raw or undercooked beef, poultry or shellfish.

Symptoms

Symptoms appear anywhere from 30 minutes to ten days after an individual comes in contact with food borne bacteria, although it is usually the first 4-48 hours.

Contaminated food

Food is contaminated through poor handling and storage and through lack of personal hygiene by the people who prepare and serve it. Food can be contaminated by cross contamination during food preparation via hands, utensils and equipment or during storage of cooked and uncooked food.

Hazardous foods

Hazardous foods include:

- Undercooked poultry, meats, eggs
- Unpasteurised milk or milk products
- Raw or undercooked eggs or dishes
- Raw or undercooked shellfish

- Cooked food which has been contaminated by raw food
- Food past "use by" date
- Food store above recommended safe temperatures for storage.

Prevention

We can think of food borne illness as being a chain of circumstances:

- There must be bacteria in the food.
- The bacteria must have the right conditions to grow including warmth (5°C- 6°C), moisture, and food.
- The bacteria must have time to grow and multiply.

If this chain of events is broken, food borne illness can be prevented.

Some think that their homes are safe havens from such illness but statistics show that 24% of single cases reported in Malta during 2002, have been traced to originate from their own home. Hence consumers need to take on part of the responsibility to prevent food borne illness.

Food borne illness can be prevented by:

- Preventing food from being contaminated
- Preventing the bacteria in the food from growing and multiplying

You can reduce your risk for food borne illness by following the following tips in handling of food.

Shopping – Buying Safe Food

Choose your food

- Buy your food from reputable supermarkets or shops since they have quality assurance systems in place.
- Certain ripened soft cheeses such as camembert, brie and blue veined varieties may contain high levels of listeria. Do not eat these sorts of cheeses if you are in the vulnerable group (pregnant, elderly or immunodeficient).
- While many foods such as fruits and vegetables are best in their natural state, others simply are not safe unless they have been processed.
- Check expiration dates of meats, dairy products, preserves etc.
- Select canned foods free of dents and cracks. Avoid swollen cans.
- Do not buy dairy products and delicatessen items which have been kept outside refrigerated cabinet or frozen food packs which contain ice crystals or packets with clumps of ice between them.
- Do not buy from stores where cooked and uncooked foods especially meats are not kept separately.

Care for your shopping

- Avoid cross contamination in your shopping cart. Do not allow meat, poultry or seafood juice to drip on to other groceries. Wrap them separately.
- Buy perishables last and keep them in the coolest part of your car or use a picnic cooler.
- Refrigerate or freeze promptly upon arrival at home.
- Read food labels which provide a good deal of safety information.

Storing Food

Food might be safe when you buy it, but improper storage can make it unsafe to eat. Proper storage can slow food spoilage and can prevent food contamination. Follow any storage advice given on food labels

Store unopened non perishable food

- In a cool area
- On cleanable shelving
- In a tightly covered container if removed from original packaging and label with name of food and expiry date

Chill

Refrigerate or freeze promptly since cold temperatures prevent bacteria from growing.

Proper refrigeration

Refrigerator temperature should be no higher than 4 °C. This is important because it slows the growth of most bacteria. Use a thermometer to maintain a constant temperature.
Also avoid leaving the fridge door open since the temperature of the refrigerator would rise.

- If you want to store meat, poultry or seafood in the fridge to be used in 2-3 days, put them in the coldest part of the refrigerator usually towards the back and store them in a closed container in the lowest part of the fridge so their juices do not drip onto other foods and contaminate them.
- Fruits and vegetables may have bacteria and viruses on their surface so it is best to wash them thoroughly before handling and storing.
- Keep eggs clean and cold.
- Cool hot foods quickly before putting in the refrigerator.
- Store milk in its original container.

- Full refrigerators are harder to keep cool since they inhibit the circulation of cold air. So avoid overstocking the refrigerator.

Freezer storage

Keep freezer temperatures at -18 ° C or colder. Freezer temperatures slow bacterial growth but do not kill bacteria. Use a refrigerator thermometer to check freezer temperatures. Keep clean and defrost the freezer regularly to avoid build up of ice.

Safely thawing food

- Put frozen food in the refrigerator the day before it is needed.
- Microwave on thaw setting immediately before cooking or cook thoroughly.
- Never refreeze food that has been thawed.
- It is not a good idea to thaw meat and poultry on the kitchen counter. Bacteria can multiply rapidly at room temperature.

Covering food

Protect food from mould and dust by:

- Leaving it in its original packaging or
- Putting it into another closed container.

Protect food from insects, rodents and other animals

For stored foods, use up older items first- "first in first out".

If in doubt throw it out.

Preparing Food

Before you begin cooking

Clean hands are an excellent way to prevent the spread of diseases. Always wash your hands thoroughly with soap and warm water on both sides of your hands for at least 20 seconds:

- Between every finger and around the nails
- Rinse off with warm clean water
- Dry hands properly with a disposable paper towel

Wash hands especially:

- After going to the toilet
- Before touching and eating food
- After touching raw food
- If they look and feel dirty
- After playing with pets
- After coughing, sneezing or blowing your nose
- After changing nappies
- After combing your hair
- After handling waste.

Even though you cannot see them, germs on your hands can quickly spread and make you or other people ill.

Keep your hands clean.

Cleaning up

Proper cleaning and sanitising can reduce the risk for food borne illness.

- Thoroughly wash with warm hot soapy water all surfaces that come in contact with raw meat, poultry, fish and eggs before moving on to the next step in food preparation.
- Wash cutting boards with hot soapy water after each use. Sanitise with bleach or commercial kitchen agents. Replace when worn or when they develop hard to clean grooves.

- Consider using paper towels to clean up kitchen surfaces. If using cloth towels, wash them often in hot water. Disinfect in chlorine bleach solution.

Avoid cross contamination

Cross contamination is how bacteria spread from one food product to another.

- Separate raw meat, poultry and seafood from other food in the grocery-shopping cart.
- Store raw meat, poultry, and seafood in the bottom shelf of the refrigerator so juices do not drip onto other foods.
- If possible use one cutting board for raw meat products and another for salads and other foods that are ready to be eaten.
- Always wash hands, cutting boards, knives and other utensils with hot soapy water after they come in contact with raw meat, poultry and seafood.
- Never place cooked food on a plate that previously held raw meat, poultry or seafood.
- Avoid preparing food for yourself or others if you are ill, especially with diarrhoea.
- Cover cuts on hands with waterproof dressings.
- Use a lidded bin with liner for waste. Empty and clean it regularly.
- Try to prepare foods that are not going to be cooked before you prepare raw foods to avoid transferring bacteria from raw to cooked meat.
- Never handle cooked and uncooked meats together.

Cooking

Cook food thoroughly

- Thorough cooking will kill pathogens but all parts of the food must reach at least 70 °C for at least two minutes. Adequate cooking in the final stages of food preparation can eliminate earlier contamination.
- Check that all food is thoroughly cooked in several places by using a food thermometer. Food thermometers are advised to be used when cooking meat and poultry to ensure that a temperature sufficient to destroy food borne bacteria is reached. A good thermometer helps you:
- Cook food to a safe temperature
- Prevent overcooking and obtain the best flavour
- Take the guess work out of cooking
- Cooking must be continuous. Never partially cook food, let it sit, then finish cooking later.

Microwave cooking

Microwaves can play an important role in cooking but special care needs to be taken when preparing for reheating food to ensure they are served safely. Cook beef and fish to an internal temperature of 63 °C and pork to 77 °C and poultry to 82 °C. Stir and rotate foods frequently to evenly distribute heat and avoid cold spots that can support the growth of bacteria.

Eat cooked foods immediately

When cooked foods cool to room temperature, microbes begin to proliferate. The longer the wait, the greater the risk. Harmful bacteria can grow rapidly in the "danger zone" (10 °C to 63 °C). So eat and enjoy your food within two hours to prevent harmful bacteria from multiplying.

Safe cooking of food

If food is cooked ahead of time, cool it completely and then cook it rapidly within two hours.

- Put cooked food into shallow pans.
- Cover the pans with a lid, plastic wrap or foil.
- Label including date and refrigerate immediately after cooling down (within 2 hours)
- Use within two days of cooking
- Reheat only once

Reheating cooked foods

- When reheating food make sure that it is heated completely so that the food is piping hot
- Meat and meat dishes must be brought to the temperature of 70 °C for at least two minutes.
- Proper storage of food after cooking protects it from recontamination and cold storage reduces bacterial growth.
- Throw out leftovers that are more than two days old. It is better to waste this food than to risk food borne illness.

Safe Serving

- Always wash hands before handling and serving food.
- Make sure all surfaces, serving dishes and utensils are properly cleaned. Use an antibacterial product on hard surfaces for protection.
- Do not reuse dishes and utensils used during food preparation but use clean ones.
- Serve grilled food on a clean plate not the one which held raw poultry, fish or meat to avoid cross contamination.
- Do not leave perishables out for more than two hours.

Buffet

- Keep hot food hot by using chafing dishes or warming dishes
- Cold food should be kept on ice and served cold.

Picnic

- Store perishables in a cooler with ice or cold pack cooler in shade and close lid when not in use.

Barbecue

- Keep foods to be cooked away from foods that are ready to eat.
- Keep meats and salads cold until it is time to cook or eat them
- Undercooked burgers, sausages and poultry can be a serious health hazard. Take extra care to cook them thoroughly until the juices run clear and no pink remains.
- Wash hands before touching food. Clean all cooking and eating utensils and work surfaces after use.

Packed lunches

- Have an insulated lunch box to keep food as cold as possible and put in an ice pack.
- Use vacuum flasks for keeping foods cold as well as hot.
- Chill foods thoroughly before packing.

- Wrap foods separately and fill the lunch box as full as possible to help the food stay cool longer.
- If you cannot keep the lunch box cold, then avoid packing cooked meats, pates or similar foods that deteriorate quickly.

Handle These Foods With Care

Eggs and egg rich foods

Raw eggs that were contaminated with Salmonella have often caused outbreaks of food borne illness so they have to be handled with extra care.

Buy eggs only if sold from a refrigerator or refrigerated case. Check that eggs are clean and shells are not cracked.

Store eggs in their original carton. Eggs should not be washed. Refrigerate as soon as possible and use within 4-5 weeks.

Cook eggs until yolk and white are firm.

- Boiled eggs submerged in boiling water for 7 minutes.
- Fried eggs at least 3 minutes on one side and 2 minutes on the other side.
- Poached eggs for 5 minutes in boiling water.

Eat eggs promptly after cooking. Do not keep eggs warm for more than two hours.

Avoid eating raw eggs. Do not taste cake batters and cookie dough before they are baked.

Meat, Poultry and Fish

Thaw frozen meat/ poultry in refrigerator

Use different cutting boards for raw food and cooked food.

Cook meat, fish or poultry adequately and keep hot (> 63 °C) until served or cool below 5 °C to prevent growth of bacteria or production of toxins.

Left-overs

Cool hot perishable foods quickly and store in a refrigerator.

Frozen Foods

Maintain strict sanitation when preparing food for home freezer.

Canned Foods

 Do not use cans which show any sign of spoilage or bulging. Do not store contents of an open can in the can itself since food can react with the metal once opened. Use contents within 48 hours.

Follow food safety advice at all times

- Keep foods at the right temperature and limit the time between preparation and eating.
- Keep everything clean to avoid cross contamination.
- Finally enjoy your food and stay healthy.