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Factsheet on E.coli

The good E.coli

Escherichia coli (E. coli) is a bacterium that is found in the gut of humans and animals. Most strains of *E. coli* are harmless. Most human beings have a significant concentration of such "good" E. coli in their gut (typically up to 1,000,000 per gram of faeces).

The bad E.coli

Some E. coli strains, however, can cause disease. For example, enterotoxigenic strains produce a toxin in the gut, resulting typically in diarrhoea, but can also lead to more serious disease.

The ugly E.coli

Some strains of E. coli can cause very serious - and in some cases life-threatening - disease. One important group of these coli bacteria is the group of Enterohaemorrhagic *Escherichia coli* (EHEC). This type causes severe, often bloody diarrhoea, accompanied by abdominal cramps. Healthy adults mostly (but not always) recover completely from *E. coli* illness within a week. However, in vulnerable people, especially young children and the elderly, the illness can progress to Haemolytic Uraemic Syndrome (HUS), a condition that can lead to serious kidney damage and even death[1].

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What is the disease incidence?

EHEC occurs in all countries. The incidence seems to vary between countries. In 2004 the number of laboratory confirmed cases in the European Union and Norway was 1.3 cases per 100 000 population while in the same year the incidence in the USA was 0.9 cases per 100 000 people. The frequency of EHEC, and more specifically HUS, appears to be the highest in Argentina with estimates of approximately 22 cases of HUS per 100 000 children aged 6 to 48 months. These differences could be real or could simply reflect different capacities of surveillance systems to accurately collect and report cases.

Where does it come from, and how can it be prevented?

EHEC has been isolated from various domestic animals, including cattle, sheep, swine, goats and deer. Data based on outbreaks and sporadic infections indicate beef and beef products as the most frequently identified source. Other foodborne sources include fresh produce (e.g. sprouts, salads), drinks (e.g. apple cider/juice) and water, where contamination most likely occurs during preparation. Effective prevention strategies ranging from farm level to prevention at the consumer stage are the most efficient way to produce safe food. For EHEC a number of different strategies can be used to lower the risk, starting at the farm where new research indicates that the treatment of herds just before slaughter can play a role, through to the agricultural practices employed when using animal manure to fertilize produce, and all the way to the kitchen where the WHO Five Keys to safer foods is recognized as providing an important final guideline to prevent pathogens from reaching people through food.

Why estimate the global burden of E. Coli?

Precise information on the health impact and cost of unsafe food from E. coli is needed to adequately inform policy-makers how best to allocate resources. To date, however, no comprehensive information exist. In particular data on E. coli from developing countries, where populations are more exposed to contaminated environments, are scarce. In order to fill the current data vacuum, WHO and its partners launched the Initiative to Estimate the Global Burden of Foodborne Diseases. The scientific evidence provided will enable decision-makers to evaluate the impact of food safety measures and design cost-effective prevention policies resulting in a reduced risk of food contamination from E. coli and other foodborne diseases. This would help reduce premature deaths, high levels of absenteeism due to illness and overall health care costs.

[1] www.who.int/foodsafety/consumer/5keys/en