Evaluation of food poisoning occurrences worldwide and relevant organisms

Dilek Heperkan
Istanbul Aydin University, Enginering Faculty, Food Engineering Department

Some specific incidences observed in recent years, are very important to understand the role of microorganisms and the production environment in food poisoning. Preparation of food under hygienic conditions, cooking at the correct temperature for a suitable time and immediate consumption prevents the growth of pathogen microorganisms considerably. However, infection related to bacteria such as *Salmonella*, *Campylobacter* and virial infections like norovirus, hepatitis A virus, are common, known food borne diseases, although their numbers differ from year to year. The number of *Salmonella* food poisoning cases in the European Union has been reported to have risen by 3 percent since 2014 by the EU health and food safety officials.Similarly, hepatitis E virus infections related to meat consumption has also been observed.*Salmonella* infections can be treated in general. Infections are brought under control in aperiod between 4-7 days.Fatal incidences are also seen from time to time however. Food poisoning events are also encountered in our country. It is known that a large number of soldiers from military troopsin different regions have been medically treated in 2017; a soldier has lost his life.

It is observed today that the eating and consumption habits of people have changed together with the production and storage methods. Thesevariations are major factors in food borne diseases originating from known pathogens as well as new pathogens.*Clostridium difficile*, *Cronoobactersakazakii*,*Helicobacter pyloriare* examples of such atypical pathogens. New pathogens are specifically important since they are responsible for serious health problems targeting specific age groups like babies, elderly and people with immune system deficiency. In addition to pathogenic bacteria, observations of infections caused by protozoa have shown considerable increase recently. A great majority of these infections are related to the production of food in non- hygienic environment. Some examples of protozoa responsible for food borne diseases are: *Cryptosporidium spp.*, *Giardia*, *Cyclospora* and *Toxoplasma*. The importance ofprotozoa infections is due to the fact that their symptoms, treatment methods and results are different from other pathogens; the number of infected people is much higher than expected. This paper aims to approach food poisoning incidences encountered worldwide as well as in our country from a pathogen-food-human relation point of view, thus to contribute to the solution of an important hazard.

Keywords: food poisoning, pathogens, Cronobacter, virus, protozoa