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## **CORONA VIRUS**

### **Prof Lucia Anelich**

I have received numerous queries on the “novel coronavirus” that is causing the current outbreak in China, which is now spreading to other countries. The main question asked is whether it is transmitted via food to humans. Below is a brief background to the virus and my view (summary) after consulting some reputable websites as well as my extensive network of international colleagues. I have kept it short for ease of reading, but you are welcome to contact me, should you require more detailed information. Please note that this information is copyrighted to Anelich Consulting; this excludes sources referred to specifically. You are welcome to distribute this communicate only in its original form to others.

#### **Question: What are corona viruses?**

Coronaviruses (CoV) are a large group of viruses that are common in many different species of animals. They cause illness ranging from the common cold to more severe diseases such as Middle East Respiratory Syndrome (MERS-CoV) and Severe Acute Respiratory Syndrome (SARS-CoV). The common cold is something we are all familiar with – this is often caused by what is termed “common human coronaviruses” of which there are many strains. A few MERS cases continue to occur, mainly in the Arabian Peninsula, whilst no human SARS cases have been reported since 2004 (Centers for Disease Control and Prevention – CDC <https://www.cdc.gov/>; World Health Organization – WHO <https://www.who.int/emergencies/diseases/novel-coronavirus-2019>).

The current virus that was reported on 31 December 2019 for the first time by China, is a new strain that has not been previously identified in humans. It is been given the name “novel coronavirus” or “2019-nCoV” (WHO).

#### **Question: What are the symptoms of infection?**

Common signs are respiratory symptoms, fever, cough, shortness of breath, and breathing difficulties. In more severe cases, infection can cause pneumonia, severe acute respiratory syndrome, kidney failure and even death (WHO). The incubation period seems to be 2-14 days (CDC); this is why expats returning to home countries are monitored or quarantined for at least 14 days.

#### **Question: Can the 2019-nCoV be transmitted via food?**

The simple answer is that we do not have clear evidence that the 2019-nCoV is transmitted via food and we do not have answers yet on the behaviour of the 2019-nCoV and effective kill treatments in the “food space”. Despite this, there are general precautions provided by the WHO to avoid contact with diseased animals, wash hands well after handling raw meat etc, which remains good advice in any setting, not only related to coronaviruses.

The best that we can do currently is use information that we have regarding closely related viruses i.e. MERS and SARS viruses. Whilst we cannot say that the 2019-nCoV will react in exactly the same way, it does give us an indication of what we may be dealing with.

**MERS:** Data has shown that the MERS virus can be transmitted via consumption of raw camel milk. However, we do know that raw milk from animals is a high risk product as it may contain many other microbes that can cause disease in humans when ingested; hence pasteurization of milk to render it safe for human consumption.

**SARS:** The SARS virus is killed by thermal processing at 60° for 30 min. Another study on survival of SARS particles on dry surfaces, showed a 5-6 log decrease in 9 days at room temperature.

There are clearly many unanswered questions, but the current belief is that the greatest risk is person-to-person infection, not infection via food. This means that in a food processing environment, one ill person can transmit the infection to co-workers via bad hygiene practices (including coughing, sneezing, spitting etc). When person-to-person spread has occurred with MERS and SARS, it is thought to have happened mainly via respiratory droplets produced when an infected person coughs or sneezes, similar to how influenza and other respiratory pathogens spread. Spread of SARS and MERS between people has generally occurred between close contacts.

Another question that has arisen is whether there is potential carriage of the virus to humans via bio-aerosols from raw food, but currently, there is little evidence of this as well. Implementation of Good Hygiene Practices, particularly regular hand washing and where necessary, hand sanitizing remain key prevention measures.

#### **FINALLY.....**

I am keeping a close eye on any developments related to transmission of the 2019-nCoV via food and shall inform you accordingly.

**Training course on food microbiology:** There are many microorganisms associated with a variety of foods, but the question that should be asked is whether they are in fact a risk to human health and under which circumstances. My course takes a risk-based, as opposed to a hazard-based approach and looks at what is **realistically** a risk to humans associated with different food products.

**Training course on developing appropriate microbiological criteria:** Another extremely popular course is on developing appropriate microbiological criteria for your products. This course is based on statistically-validated sampling plans that would provide you with a greater level of confidence that you would find the pathogen if it were present in your product, at a low level of contamination. The training includes an assessment of how well your current sampling plan is performing (or not).

**Retainer:** A popular development in the past three years has been contracting me on a retainer basis. Contact me directly to discuss. Terms and Conditions apply.

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