UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

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OPINION PIECE

Coronavirus: no evidence that food is a source or transmission route

By Professor Elna Buys, Head of the Department of Consumer and Food Sciences at the University of Pretoria. This piece commemorates World Food Safety Day which is on 7 June.

There is no evidence to date that the new coronavirus which causes COVID-19 can be transmitted by food. The association of transmission via the wet food market in Wuhan, China, has led to much misinformation about COVID-19 being spread in food. The virus, it needs to be emphasised, is transmitted primarily by people who are infected, coughing and sneezing.

While we do not yet have sufficient information about the virus responsible for COVID-19, scientists can predict the behaviour and characteristics of the virus based on data from similar viruses, such as those responsible for Severe Acute Respiratory Syndrome (SARS) and Middle East Respiratory Syndrome (MERS).

What is critical during this pandemic is the application of sound principles of personal and environmental hygiene, and established food safety practices, to not only guard against anyone dealing with food from contracting the virus, but also to reduce the likelihood of any food-contaminating pathogens, such as *Salmonella* spp., *Campylobacter* spp., *Escherichia coli*, and *Listeria monocytogenes,* threatening the safety of the food supply.

What do we know about coronavirus and food is the following:

- Coronavirus cannot grow on food.
- Cooking food to the right temperature 72 – 75 ° C for two minutes is always an excellent way to prevent getting sick. While we have not determined the effect of cooking on this particular virus, other coronaviruses are destroyed at these temperatures.
- Consuming raw fruit and vegetables is safe.
- Handling food packaging is not a likely cause of COVID-19.

People employed at food processing companies, food retailers and restaurants and other food service establishments are critical in the pandemic response in terms of keeping food safe.

Food contaminating pathogens are still major concerns for food safety worldwide. Food can become contaminated with microorganisms that can cause human illness from multiple sources along the entire food chain – ranging from infections in live animals up to the point of consumption. Preventing contamination reduces foodborne illness and decreases the likelihood of novel pathogens emerging in the food chain.

Food processing plants have stringent hygienic measures in place to support food safety requirements and are enhancing health measures to protect essential staff who come to work every day to keep South Africa eating.

The Codex Alimentarius Commission has adopted several practical guidelines on how to apply and implement best practices to ensure food hygiene, handle meats, and control those viruses that do occur in food. The disruption of the food supply chain possibly poses unexpected food safety risks, particularly for perishable foods.

Implementing enhanced food safety practices is essential to guard against the contamination of foods with pathogens, and the associated public health burden caused by established foodborne infections. This will also reduce the stress on our public health system.

At the individual level we need to employ safe, hygiene-conscious habits when out shopping. Maintain physical distance from other people when selecting food items and ensure there is space between you and the next person when standing in a queue. Keep your hands clean and do not shop if you have any COVID-19 symptoms.

Restaurants and other food service establishments are severely disrupted by the pandemic, but it is imperative that they practise good hygiene and keep all its staff healthy – from those preparing the food to those delivering it.

This crisis highlights the real importance of food safety again. Good hygiene must be practised at all levels and by the consumer as well as the food industry. We must make sure that food safety information is communicated in an easily understandable scientific manner to all stakeholders in the food chain, from producers to consumers.

The food industry must be equipped to respond to various disruptions to ensure that an adequate, safe, sufficient and affordable food supply is maintained. If the food supply is to be maintained, focus on professional personnel is essential to avoid transmission and a labour shortage if employees contract the virus. Solutions must be put in place. The food industry also needs to communicate clearly to consumers. Maintaining current food safety measures and preparedness for food recalls should remain a priority.

Suggestions for post-pandemic consideration:

- Significant reviews of food systems at all levels, with particular emphasis on resilience.
- Changes in agri-food systems, including enhancing the production and consumption of locally produced foods.
- Development of foods to promote immune function should be a priority for the food industry and government. There should be a particular focus on the elderly population, as well as other vulnerable groups.
- Reinforce the food safety habits developed during the pandemic as a way of life.
- The food science and technology community should contribute to the recovery.
- Food scientists and technologists should have a more substantial role in government policy and contingency planning, to ensure the resilience of the food supply chain in responding to future pandemics and other emergencies.

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ABOUT THE UNIVERSITY OF PRETORIA

The University of Pretoria (UP) is one of the largest contact and residential universities in South Africa, with its administration offices located on the Hatfield Campus, Pretoria. This 112-year-old institution is also the largest producer of research in South Africa.

Spread over seven campuses, it has nine faculties and a business school, the Gordon Institute of Business Science (GIBS). It is the only university in the country that has a Faculty of Veterinary Science which is ranked top in Africa, and overall has 120 academic departments, as well as 92 centres and institutes, accommodating more than 55 000 students and offering about 1 100 study programmes.

UP is one of the top five universities in South Africa, according to the 2019-2020 rankings by the Center for World University Rankings. It is also ranked among the top 100 universities worldwide in three fields of study (veterinary science, theology and law), and among the top 1% in eight fields of study (agricultural sciences, clinical medicine, engineering, environment/ecology, immunology, microbiology, plant and animal sciences and social sciences).

In June 2019, the annual UK Financial Times Executive Education Rankings once again ranked GIBS as the top South African and African business school. The University also has an extensive community engagement programme with approximately 33 000 students involved in community upliftment. Furthermore, UP is building considerable capacities and strengths for the Fourth Industrial Revolution by preparing students for the world beyond university and offering work-readiness and entrepreneurship training to its students.

As one of South Africa's research-intensive universities, UP launched the *Future Africa Campus* in March 2019 as a hub for inter- and transdisciplinary research networks within UP and the global research community to maximise 4IR innovation and address the challenges and stresses our continent and world is facing. In addition, UP also launched the Javett Art Centre in September 2019 as a driver of transdisciplinary research development between the Humanities and other faculties. In 2020 UP will launch Engineering 4.0. as a hub not only for Smart Cities and Transport, but also to link the vast resources in technology and data sciences to other faculties via Future Africa. These initiatives are stimulating new thinking at the frontier of 'science for transformation'.

For more information, go to www.up.ac.za