

Care of livestock and handling of livestock products during COVID-19

Prachurya Biswal^{1*}, Triveni Dutt² and P.K. Bharti³

ICAR-Indian Veterinary Research Institute, Izatnagar 243 122, Uttar Pradesh

COVID-19 is a highly contagious disease which spreads from person to person mainly by droplets whereas the risk factor to animals is very low and the risk from animals is even lower. Pets and livestock have the chance to be infected when they come in close contact with the infected person (caretaker/owner). Hence, there is no reason to harm wildlife or livestock or abandon a pet out of fear that it will transmit COVID-19, and unfortunately, some people in India found to abandon their pets. The relationship with animals can act as a great source of comfort, relaxation, helping to combat depression, anxiety, and stress.

Keywords: Care of livestock, Contagious disease, COVID-19, Pandemic, SARS-COV-2

Introduction

Corona viruses consist of a large family of viruses that range from common cold viruses to Middle East Respiratory Syndrome (MERS) virus. Animal species have their own corona viruses that cause a variety of illnesses like dog, cat, pig, and cattle corona viruses are very common and do not cause illness in people as they get used to it. SARS-CoV-2, the virus that is causing COVID-19 may be originated from wild animals (from bats to pangolins and from them to human) in China. Due to mutations this new virus has developed the ability to infect humans (10 times more infectious than flu viruses) and spread efficiently from person to person. A few pets living with COVID-19 patients have tested positive for the presence of SARS-CoV-2 virus. Research is ongoing in multiple species to study how animals may be affected. The risk to livestock getting infected with SARS-CoV-2 from people taking care of them in farms cannot be avoided. It is not at all surprising that SARS-CoV-2 can infect some animals under certain conditions. Other human viruses like H1N1 influenza and SARS-CoV-1, which is very similar to SARS-CoV-2, have also spread

from people to animals in low numbers, most notably in cats, ferrets, and pigs. There is no evidence to suggest that a naturally infected animal is capable of transmitting infection back to humans.

Does interacting with animals pose a risk to human?

Humans are not at risk for passing COVID-19 to their livestock and there is no reason to believe animals can transmit the disease to humans. There is no evidence that pets, livestock, fish, domestic poultry or draft animals can spread COVID-19 to humans. We may say that, it is safe to keep, rear, maintain and care for pets, draft animals, and livestock but precautions should be there. While there are no COVID-19 specific guidelines to be taken when interacting with animals, it is always better to practice good personal and farm hygiene and with biosecurity measures. This means washing hands with soap and water before and after touching animals and cleaning and disinfecting any farm machinery/equipment, wearing mask and hand gloves should be practiced. Misleading information on animals spreading COVID-19 pandemic continues to circulate. That is why it

is important that everyone should be well informed and continues to treat animals humanely. There is no justification at all for abandoning, rejecting, mistreating or killing animals because of concerns over COVID-19.

However, the virus is very contagious between people and circumstances where animals or their products bring people together can create a real risk of infection and disease during this pandemic. Some safety tips to follow while working with animals:

- Stay at least 6 feet away from other people
- Limit the number of people in the barn at any one time
- Encourage sick people (boarders, workers and veterinary staff) to stay home
- Clean and disinfect surfaces regularly
- Ensure availability of hand hygiene materials (soap and water, hand sanitizer)

Risk from people to animals

Animals are likely to be exposed to the virus from infected humans who are showing or not showing symptoms. Hence make sure to wash your hands with soap and water

before and after interacting with an animal and clean up after domestic animals properly.

Risk of COVID-19 infection in livestock: There have been no documented cases of COVID-19 infection in livestock species and there is no evidence to date that humans represent a risk of this infection to farm animals. However, there are many corona viruses of veterinary importance, such as transmissible gastroenteritis virus (TGEV) and porcine respiratory corona virus of swine, infectious bronchitis virus of poultry and equine and bovine corona virus. While these are generally very contagious diseases within a group of animals, they are not often transmitted between species and are quite host restricted. Livestock corona virus diseases represent a very low risk for human infection and disease and these are not related to COVID-19.

Preparations for livestock during the pandemic

Caring for livestock appropriately during this pandemic will ensure the maintenance of a safe, secure and stable food supply, and ensure the health and well-being of companion and therapy animals that are important for the health and well-being of humans. Pandemic preparedness for livestock should include planning for consistent sources of hay, feed, medications, and alternative caretakers if needed.

Risks about trading animals

There are no evidence to suggest that livestock or animals in general, including fish as well as animal products or agricultural products can spread COVID-19, whether imported or not. As these do not play any role in the transmission of COVID-19 to people, there is no reason to limit trade or movement of animals and their products, unless people are moving with animals and there are national travel restrictions in place for humans.

Risks from foods of animal origin

The point for everyone to remember is a person cannot get infected by COVID-19 from

consuming, selling, buying or trading food but must continue to practice good hygiene and food safety measures as always. There are no known human cases of COVID-19 that can be linked to foods of any kind, including meat and products from fish, wildlife, pulses, grains, fruits and vegetables. Following strict environmental sanitation, personal hygiene and food safety measures to prevent cross-contamination is key to control any food borne illness. Always ensure food safety and hygienic practices can reduce the likelihood of diseases to emerge or transmit.

General recommendations for consuming foods of animal origin during COVID-19

Here are some common recommendations on how to properly handle food of animal origin to ensure food safety:

- Cook meat and other animal products thoroughly. This includes also frozen meat where viruses can survive for up to two years of storage at minus 20°C
- Avoid eating raw and undercooked foods of animal origin (meat, eggs, milk) to reduce exposure to all viruses and other food borne pathogens
- Prior to and after cooking meats should always be stored in a way that they cannot contaminate other foods
- Keep the environment, equipments, tools and surfaces clean
- The virus from contaminated products once in contact with objects and surfaces can render them infectious up to nine days
- Personal hygiene is essential for food safety and ill people should avoid handling food
- Appropriate slaughter techniques are necessary to minimize food safety risks
- Wet markets, where live animals are held, slaughtered and dressed pose a particular risk for pathogen transmission to both workers and customers alike. To reduce transmission risks, these areas should be cleaned regularly. Care is required during the stages of

stunning, defeathering, dehairing, hide removal and evisceration to minimize contamination

- People should not handle, slaughter, dress, sell, prepare or consume any animal protein that originates from livestock that are sick or that have died from unknown causes. These practices place people at high risk of contracting any number of infections
- Any unusual morbidity or mortality of animals should be reported to the animal health authorities

Overall, we must make sure that good food safety and hygiene practices are followed.

Veterinarians' role during Pandemic

The veterinarians should reassure everyone that it is safe to keep, rear, maintain and care for pets, draft animals and livestock and also for vets to maintain their activities even during lockdown (e.g. surveillance, vaccination, outbreak investigations in the case of disease events, basic veterinary care etc.). Veterinary Authorities should also remain informed and maintain close contact with Ministries of Health and Forestry, Natural Resources or Wildlife, to ensure coherent and appropriate interventions and investigations and risk management. Detection of SARS-CoV-2 virus in any animal (including information about the species, diagnostic tests, and relevant epidemiological information) should be reported to the higher authorities.

CONCLUSIONS

Keeping farm animals and pets and working with them is absolutely safe provided personal hygiene and farm hygiene should be maintained. Animals do not spread SARS-CoV-2 to human. Products from animal origin should be properly cooked as well as maintenance of food hygiene is highly recommended prior to consumption.

¹*PhD Scholar, ²Joint Director (Academic), IVRI, Izatnagar. ³Scientist (LPM Section), MGIFRI, Motihari, Bihar. Corresponding e-mail: prachuryabiswalvet@gmail.com