

Prevalence of Zoonotic food-borne pathogens in Commercial Broiler and Desi chicken from live bird shops in Tamil Nadu, India

Arumugam Balakrishnan^{a*}, Alagarsamy Alagesan^a, Saravanan Gunaseelan^a, Ramalingam Vijayashanthi^b, Vasudevan Gowthaman^a, Murugesan Ananda Chitra^c, Kandhasamy Senthilvel^a, Thippichettipalayam Ramasamy Gopala Krishna Murthy^a, Muthusamy Raman^b, John Kirubakaran^b, Samuel Masilamoni Ronald^b

^aPoultry Disease Diagnosis and Surveillance Laboratory, Veterinary College and Research Institute Campus, Namakkal – 637 002, Tamil Nadu, India.

^bDepartment of Veterinary Microbiology, Madras Veterinary College, Chennai – 600 007, Tamil Nadu, India.

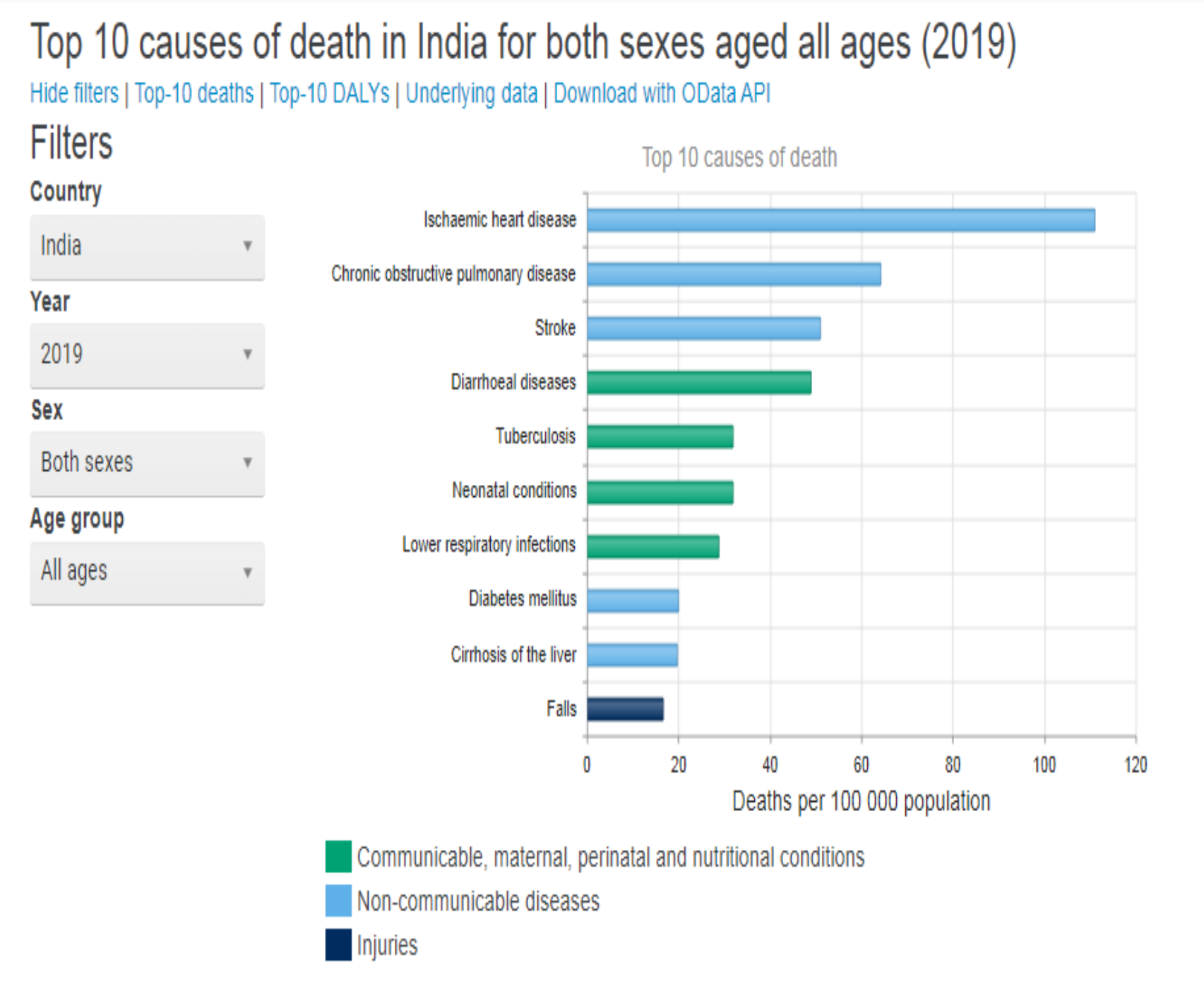
^cCentral University Laboratory, Centre for Animal Health Studies, Tamil Nadu Veterinary and Animal Sciences University (TANUVAS), Chennai – 600 051, Tamil Nadu, India.

E. mail: biosciencebala@gmail.com

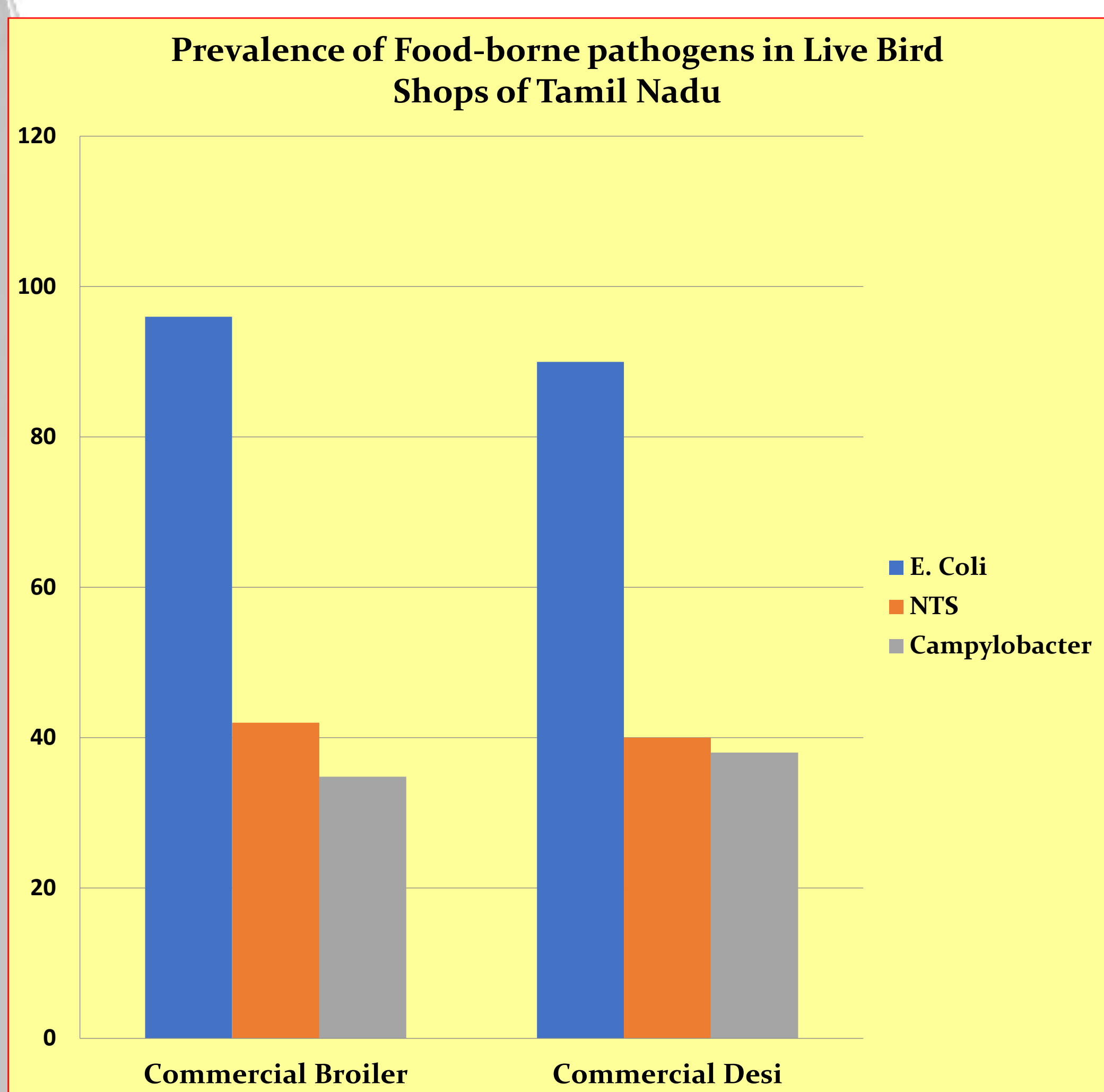
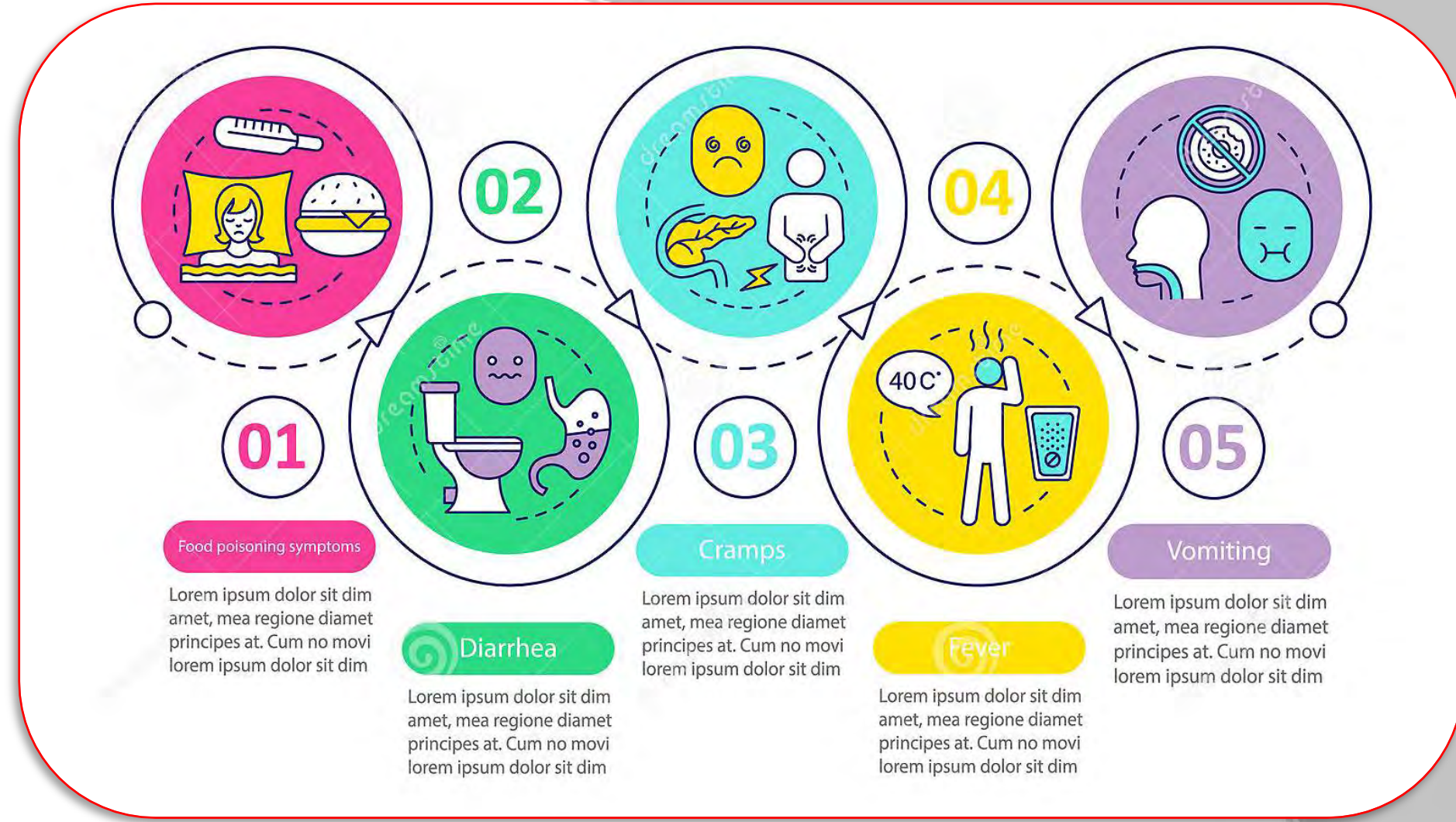


Did you know?

- Poultry meat are among the leading vehicles of food-borne illnesses worldwide.
- The food-borne pathogens that cause infections are typically zoonotic and can be introduced along the food supply chain
- Food safety, nutrition and food security are inextricably linked.
- An estimated 600 million – almost 1 in 10 people in the world – fall ill after eating contaminated food and 420 000 die every year, resulting in the loss of 33 million healthy life years (DALYs).
- US\$ 110 billion is lost each year in productivity and medical expenses resulting from unsafe food in low- and middle-income countries.
- Children under 5 years of age carry 40% of the food-borne disease burden, with 125 000 deaths every year.
- Food-borne diseases impede socioeconomic development by straining health care systems and harming national economies, tourism and trade.
- The recent estimates from the WHO revealed that *Campylobacter* spp. (27%), Enterotoxigenic *E. coli* (25%), non-typhoidal *Salmonella enterica* (23%), *Shigella* spp. (15%) and Enteropathogenic *E. coli* (7%) are the major diarrheal disease pathogens.



Food borne diseases



We found that...

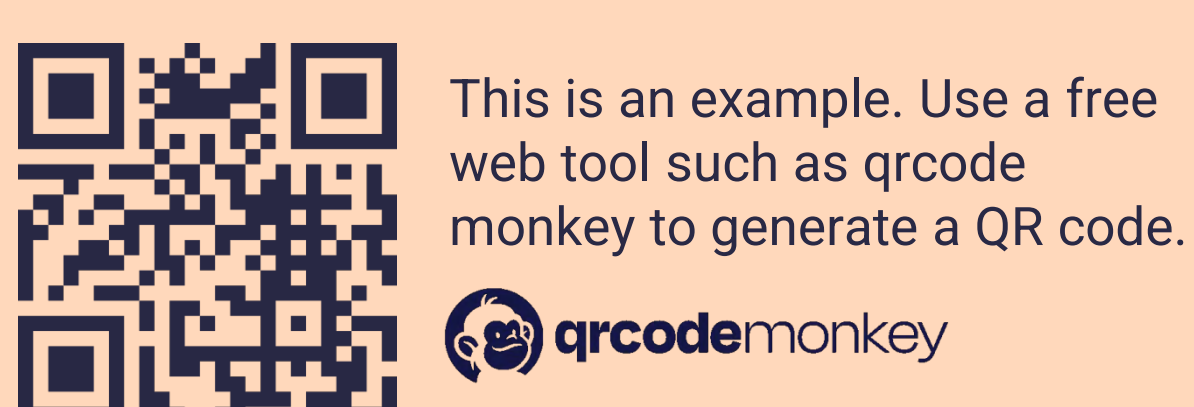
- The prevalence of food-borne pathogens was 34.8% *Campylobacter*, 96% *E. coli* and 42% NTS in Commercial Broiler birds.
- Similarly 38% *Campylobacter*, 90% *E. coli* and 40% NTS was observed in Commercial Desi birds.
- The Commercial Broiler has a higher prevalence of *E. coli* and NTS than Commercial Desi, while *Campylobacter* was more prevalent in Commercial Desi

Conclude with this...

- ❖ Globally, food-borne diseases pose a significant threat to public health and socioeconomic development.
- ❖ The prevention and control measures should be initiated by the veterinarians stating from primary production through Good Animal Husbandry Practices (GAHP) and bio-security measures.
- ❖ Further, Good Manufacturing Practices (GMP) and Good Hygienic Practices (GHP) and implementation of HACCP should be followed at production and processing levels as to reduce the burden of food-borne diseases.
- ❖ There is an urgent need for prudent use of antibiotics in both human and animals as to mitigate the rising antimicrobial resistance.
- ❖ It is increasingly necessary to consider holistically all aspects of food-borne diseases in the One Health framework.



மருந்தென வேண்டாவாம்
யாக்கைக்கு அருந்தியது
அற்றது போற்றி உணின்
No need of medicine to heal your
body's pain, If, what you ate
before digested well, you eat
again



The GCRF One Health Poultry Hub is funded by United Kingdom Research and Innovation (UKRI) under the Global Challenges Research Fund.

