

Safe Food, Fair Food for Cambodia

Prevalence of *Salmonella* and *Staphylococcus aureus* in meat in Cambodian markets

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Introduction

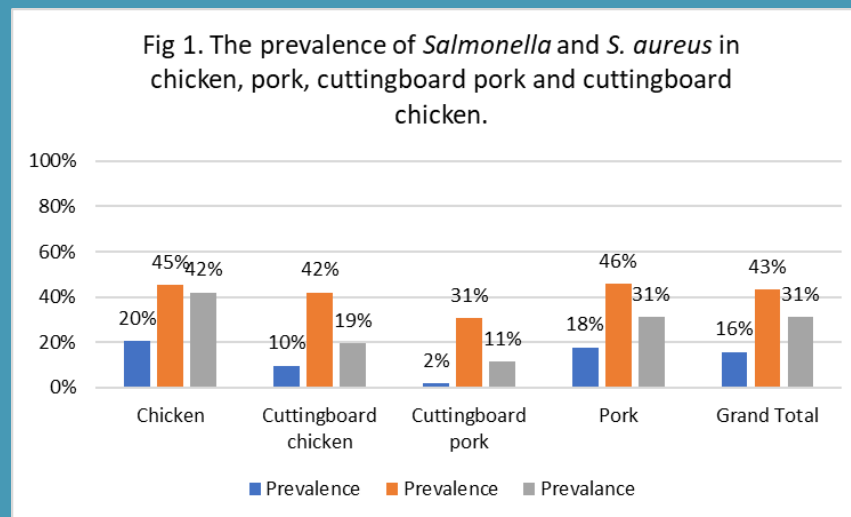
- Foodborne diseases are important in low and middle-income countries, because of their high health burden and huge economic cost.
- Fresh meat is often contaminated with microorganisms.
- Here we assess the prevalence of *Salmonella* and *Staphylococcus aureus* in animal-source foods (chicken and pork) sold at Cambodian traditional markets.

Methods

1. Sampling was collected from retail wet markets for pork and chicken meat in 25 provinces of Cambodia between October 2018 and August 2019, including repeat sampling in wet season in 4 provinces (Phnom Penh, Sihanoukville, Battambang and Siem Reap) after approximately 5 months.
2. The 496 specimens were collected aseptically at about 9-11 am: chicken meat (n=186), chicken cutting board (n=62), pork (n=186) and pork cutting board (n=62).
3. All specimens were tested for presence of *Salmonella* and *S. aureus*

A nationwide multi-hazard survey in markets in Cambodia found the prevalence in meat (pork and chicken) of *Salmonella* was 43% and of *Staphylococcus* was 31%.

The prevalence of *Salmonella* found in chicken 45.2%, cutting board of chicken 41.9%, pork 45.7% and cutting board of pork 11.3%. The prevalence of *S. aureus* found in chicken 41.9%, cutting board of chicken 19.4%, pork 45.7% and cutting board of pork 30.6%.



Results

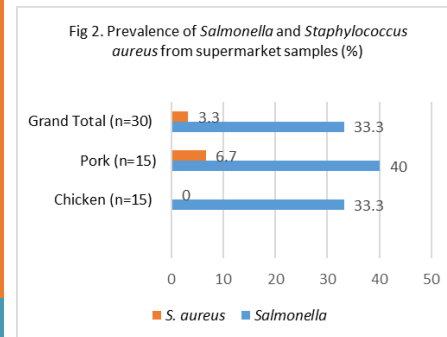


Table I. Colony forming unit of coagulase-positive *Staphylococci*

Specimen	Number tested sample	500-5000 CFU/g		
		Number and %	10-200 CFU/g	<10 CFU/g
Chicken	186	44(23.7)	39(21.0)	103 (55.4)
Cutting board chicken	62	6 (9.7)	5 (8.1)	51 (82.3)
Cutting board pork	62	4 (6.5)	3 (4.8)	55 (88.7)
Pork	186	31 (16.7)	34 (18.3)	123 (66.1)
Total	496	83 (16.7)	81 (16.3)	332 (66.9)

Recommendations

- The study found that half of the samples collected were positive for these zoonotic pathogens that can cause serious foodborne diseases in humans.

Research gaps or future opportunities

- The results indicate that these pathogens may contribute to common foodborne illness in Cambodia, and interventions to improve hygienic standards in markets are strongly recommended.