

12. Semi Quantitative Risk Assessment Of Avian Influenza And Newcastle Disease Virus In Backyard Chicken In Perak

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Abstract

A semi-qualitative risk assessment was conducted on ND and AI infections in human via direct contact with infected village chickens in Perak using the modified Risk Ranger tool. ND and AI can be transmitted to humans by direct contact with infected poultry. The symptoms of AI in human have ranged from conjunctivitis to influenza-like illness (e.g. fever, cough, sore throat, muscle aches) and some of the AI strains can lead to mortality of the patients. While infections of ND can cause mild conjunctivitis and influenza-like illness, ND virus otherwise poses no other hazard to human health. Based on the exposure data collected in this study and also on estimation of approximately 10000 people who have direct contact with the chickens including the farmers, neighbours, field worker, veterinarians and also laboratory workers involved in diagnostic activities for disease screening, it was estimated that there will be 18.3 human cases of AI and ND infections per year via direct contact with the backyard chickens, respectively. The risk ranking index for AI and ND are 70 and 53 respectively. Therefore, in spite of the medium risk estimated in this study, the potential of backyard chickens, as a vehicle of transmission of AI and ND to humans in Perak cannot be ignored.

13. Tetracycline Residues In Chicken Meat From Certified Chicken Processing Plants In Malaysia And The Dietary Exposure Assessment From Year 2012 To 2015

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Abstract

Dietary exposure assessment to tetracycline drugs was determined by multiplying mean residue concentration with mean chicken consumption and the processing factor. Tetracycline residue data used was that of confirmatory test which was taken from the Monitoring and Surveillance Program of Department of Veterinary Services from year 2012-2015, involving 127 chicken-meat samples from chicken processing plants throughout Malaysia. The chicken consumption data was based on the Malaysian Adult Nutrition Survey 2014 report. The processing factors (which was gathered from previous studies), was 0.5 for tetracycline (TTC) and oxytetracycline (OTC), 0.1 for chlortetracycline (CTC) and doxycycline (DC). The antibiotic with highest mean concentration of residue in chicken-meat samples was OTC at 87.6 µg/kg, followed by DC (80.6 µg/kg), CTC (61.2 µg/kg) and TTC (25.4 µg/kg). Mean

chicken consumption for Malaysian adults aged from 18-59 years was 34.95 g, and 118.00 g at 97.5th percentile (heavy consumption). The highest exposure was from OTC, due to the high residue found. Between geographical zones, the exposure was higher in East Malaysia compared to Peninsular Malaysia (2.7 and 2.4 µg/person/day). Overall, the sum of exposure to tetracycline drugs among adults in Malaysia in the current study was 2.5µg/person/day. When taking into consideration heavy consumption (97.5th percentile), the exposure was at 8.3 µg/person/day. Even with heavy chicken consumption, the exposure to tetracyclines still could be considered negligible as it was less than 1% of Acceptable Daily Intake.

14. Prevalence Of *Mycobacterium avium* subsp. *paratuberculosis* And *Corynebacterium pseudotuberculosis* In Dairy Cattle Herds In Kedah

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Abstract

Prevalence data for *Mycobacterium avium* subsp. *paratuberculosis* (MAP) and *Corynaebacterium pseudotuberculosis* in cattle is very limited in Malaysia. Therefore the aim of this study is to determine the herd-level and animal-level seroprevalence of MAP and *Corynaebacterium pseudotuberculosis* in dairy cattle herds in Kedah. This study was conducted in 28 dairy herds in 6 different districts in Kedah. Of 28 herds, there were 2 herds with at least 1 animal positive for *Corynaebacterium pseudotuberculosis* that have been tested using Agar Gel Immunodiffusion Test (AGID). Consequently, there was 1 herd with animals positive for MAP that have been tested using Complement Fixation Test (CFT). The herd-level prevalence for positive MAP was 3.6% (CI95%: 0.09-18.3) and animal-level prevalence was 0.5% (CI 95%; 0.01-2.8). In comparison with positive reactor records at Veterinary Research Institute (data unpublished), the MAP reactors in cattle tested using CFT has been relatively low (below 1.0%) for the past 10 years. Of note is that CFT only works well on clinically suspect animals because of its low specificity although it is often demanded by importing countries. Furthermore, the herd-level prevalence was 7.1% (CI 95%; 0.88-23.5) and prevalence at animal-level was 1.5% (CI 95%; 0.3-4.4) for *Corynaebacterium pseudotuberculosis*. Unfortunately, there are no records of reactors or prevalence of *Corynaebacterium pseudotuberculosis* in cattle in Malaysia that can be reviewed. Though *Corynaebacterium pseudotuberculosis* may occur on rare occasions in cattle, it can cause significant losses to the industry. It also has become an important zoonosis and cannot be neglected since there were human cases particularly in farm workers.