**Post-operation wound healing complication and associated factors under dog and cat population control of Chiang Mai Municipality in 2017**

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ABSTRACT

Objective: Dog and cat population control program is a crucial activity for rabies elimination in Chiang Mai Municipality. Surgical operation has been applied in this program by the Municipality. With limited resources under field condition, post-operation wound healing complication was the most concern under the program. This study aimed to describe the incidence of wound healing complication and evaluate its risk factors.

Materials and methods: The prospective study was conducted in owners and animals that participated in Chiang Mai Municipality animal birth control program during March – June 2017. Information of wound healing complication and possible risk factors were recorded. Incidence of the complication measured seven days after operation was described and its possible risk factors were measured by Risk Ratio with 95% level of confidence. 141 owners of 252 animals were included in this study.

Results: Fifteen animals (5.95%) had wound healing complication. Using procaine penicillin with dihydrostreptomycin as prophylaxis had 2.75 times (95%CI=1.03–7.31) higher chance to get would healing complication than using cefazolin. Animals that received drug completely after operation can reduce risk of wound healing complication (RR 0.15; 95% CI 0.05–0.43). For female animals, mid-line incision had lower incidence than flank incision (RR=0.22, 95% CI=0.07-0.71).

Conclusion: The surgical operation had low incidence of wound healing complication after operation and wound healing complication monitoring should be continuously evaluated.

Key words: Sterilization, wound healing complication, Chiang Mai Municipality, Thailand

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**A Case-control Study of an outbreak of Newcastle Disease in poultry at the farm level in Pemagatshel district, eastern Bhutan**

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ABSTRACT

Objective: Newcastle disease (ND) is a highly contagious viral disease of domestic and wild birds, and have huge economic impacts to the poultry farmers. Using a case control study design, we identified farm level risk factors for ND outbreak in two villages under Pemagatshel district, eastern Bhutan.

Materials and methods: Thirty households that experienced an ND outbreaks in 2014 and 2016 were identified as case. For each case two controls were selected from the same village. The data were retrospectively collected using questionnaire in February and March 2017. A univariable and multivariable logistic regression model were built to identify risk factors of ND outbreaks. Ninety household (30 case and 60 control) were selected and interviewed.

Results: Twelve of the 48 variables were found to be associated with ND outbreak on univariable analysis while the final model (multivariable analysis) identified three variables to be a risk factors for ND outbreaks. The odd of ND occurrences in a farm that were easily accessible by wild birds was 13.08 times (95% CI: 2.96-57.78) more than those farm that are not accessible to wild bird. Significant higher odds (adjusted odd ratio: 10.66; 95%CI: 2.3-49.5) of outbreak were reported in the farms that have larger flock size (>10) than the smaller farm (<10). The farm which were located near to the road (<500m) were 3.85 times (95% CI: 0.95-15.63) more likely to get the disease comparing to those that are located far from road (>500m). Routine cleaning of litter materials from the shed [(OR: 0.16 (95%CI:0.04-0.66)] and farmers knowledge on vaccinations [(OR: 0.16 (95% CI: 0.03-0.79)] had protective effects to ND outbreaks.

Conclusion: Improving the farm biosecurity and cleanliness would reduce the incidences of ND outbreak. Awareness and regular vaccination against ND should be conducted to prevent disease outbreaks.

Key words: Newcastle disease, case control study, risk factors, Bhutan