Prevalence of Avian Influenza H5N6 in Birds: A Systematic Review and Meta-analysis of Other Viral Zoonosis


ABSTRACT

Avian influenza viruses (AIV) are zoonotic pathogens that can potentially affect humans and potentially be epidemic in a region. Birds (such as poultry and wild birds) serve as potential reservoirs for these viruses, highlighting the importance of determining AIV prevalence in the avian population. No systematic reviews have been published on this issue in the world so far. The present systematic literature review following the PRISMA standard, with meta-analysis, used three databases to globally assess the Influenza H5N6 infection in birds (including poultry and wild birds). A model of random-effects meta-analysis was performed to calculate the pooled prevalence and 95% Confidence Interval (95% CI) for the prevalence of Influenza H5N6 infection in birds. A total number of 14,605 articles published from 2015 to 2020 were retrieved. After screening the abstract/title, 37 articles were selected for full-text assessment, and 15 were included for qualitative and quantitative analyses. Of the total number of birds (n = 13,416 birds), the pool prevalence by RT-PCR was 3.5% (95% CI: 2.8-4.3%). From the total, 39.67% of the birds assessed were ducks (family Anatidae), in which pool prevalence was 7.7% (95% CI: 4.4-11.0). In chickens (Gallus gallus domesticus), the pool prevalence was 3.3% (95% CI 1.9-4.8). Vietnam was the country with the highest pool prevalence; 7.9% (95% CI 4.0-11.7%). Bangladesh was the country with the lowest pool prevalence of 0.4% (95% CI 0.2-0.7%). A considerable proportion of infected birds tested positive highlighted the relevance of individual animals as reservoirs of H5N6. Ducks and chickens were found to be positive by RT-PCR in over 3% of the cases. These data suggest their relevance in maintaining zoonotic transmission and their potential implications for epidemics and even pandemics in the near future.

Keywords: H5N6, Influenza, Meta-Analysis, Molecular diagnosis, RT-PCR, Systematic Review

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from Sukraraj Tropical Hospital, Kathmandu, Nepal. The findings revealed that the number of PEP dosages used for stray dog bites throughout 10 years. On average, 36,995 PEP dosages were used per year for stray dog bites. A total of 482 human rabies deaths were recorded in Nepal during the study period. On average, 49 people were bitten by mostly stray dogs. There was a gradual increase in PEP use post-exposure prophylaxis (PEP), and human death records from 2008 to 2017 were retrieved to assess the burden of rabies in Nepal. To this end, the number of dog bites, the use of PEP, and human death records from 2008 to 2017 were retrieved. A 10-year (2008-2017) retrospective canine-mediated human rabies epidemiology was studied to evaluate the number of rabies cases and the use of rabies post-exposure prophylaxis (PEP) in Nepal. The findings revealed that the number of PEP dosages used for stray dog bites throughout 10 years. On average, 36,995 PEP dosages were used per year for stray dog bites. A total of 482 human rabies deaths were recorded in Nepal during the study period. On average, 49 people were bitten by mostly stray dogs. There was a gradual increase in PEP use post-exposure prophylaxis (PEP), and human death records from 2008 to 2017 were retrieved to assess the burden of rabies in Nepal. To this end, the number of dog bites, the use of PEP, and human death records from 2008 to 2017 were retrieved to evaluate the number of rabies cases and the use of rabies post-exposure prophylaxis (PEP) in Nepal.

Keywords: Pal P, Shimoda H, Bashyal R, Yawongsa A, and Rukkwamsuk Th. The PEP consumption and the number of human deaths were negatively correlated. A total of 252,297 dog bite cases in humans were recorded between 2008 and 2017. Every month, on average, 2,102 people were bitten by mostly stray dogs. There was a gradual increase in PEP use post-exposure prophylaxis (PEP), and human death records from 2008 to 2017 were retrieved to evaluate the burden of rabies in Nepal. To this end, the number of dog bites, the use of PEP, and human death records from 2008 to 2017 were retrieved to evaluate the number of rabies cases and the use of rabies post-exposure prophylaxis (PEP) in Nepal. A 10-year (2008-2017) retrospective canine-mediated human rabies epidemiology was studied to evaluate the number of rabies cases and the use of rabies post-exposure prophylaxis (PEP) in Nepal.
Chicken Anemia Virus (CAV) is an extremely contagious immunosuppressive disease causing high economic losses in poultry production. In the present study, tissue samples (bone marrow, thymus, and spleen) were collected from 86 different broiler chicken farms located in fourteen governorates in Egypt during 2020. They suffered from retard growth, weakness, and a drop in viral replication, were observed in all viruses. The field viruses in the study were distinct from vaccinal strains. Therefore, it is especially in Sharkia (78%), Ismailia (62.5%), and Alexandria (60%). The viral protein1 (VP1) from Nigeria, and India in group B. The Egyptian viruses in the current study acquired new mutations clustering them into new subgroups (2A, 2B). By mutation analysis comparing with Del-Rose reference strains, V75I, M97L, and K139Q, E144Q were recorded in the Egyptian viruses recorded in the subgroup 2A. Furthermore, Q139 and Q144 amino acid substitutions, which are important in the pathogenicity of the virus and the vaccine efficacy.

The vaccinal strains by phylogenetic analysis and A.A. identity. In conclusion, the CAV was (A-Egypt-AN8-2020, A-Egypt-AN9-2020, A-Egypt-AN10-2020) were clustered with the viruses in subgroup 2A. Moreover, mutation at G74E in Egyptian viruses recorded in the thymus, and spleen) were collected from 86 different broiler chicken farms located in fourteen governorates in Egypt during 2020. They suffered from retard growth, weakness, and a drop in viral replication, were observed in all viruses. The field viruses in the study were distinct from vaccinal strains. Therefore, it is especially in Sharkia (78%), Ismailia (62.5%), and Alexandria (60%). The viral protein1 (VP1) from Nigeria, and India in group B. The Egyptian viruses in the current study acquired new mutations clustering them into new subgroups (2A, 2B). By mutation analysis comparing with Del-Rose reference strains, V75I, M97L, and K139Q, E144Q were recorded in the Egyptian viruses recorded in the subgroup 2A. Furthermore, Q139 and Q144 amino acid substitutions, which are important in the pathogenicity of the virus and the vaccine efficacy.

Role of Elastin Expression in Thickening the Postpartum Vaginal Wall in Virgin and Brama brama

Elastin is a protein that is found in many different parts of the body, including the lungs, heart, and blood vessels. It is responsible for providing elasticity and resilience to these tissues. In the present study, we investigated the role of elastin in the thickening of the postpartum vaginal wall in virgin and Brama brama. We found that elastin levels were significantly correlated with epithelial thickness.

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This study was conducted to observe the influences of essential lysine on the content of yolk protein and omega-3 and omega-6 in the fish. The success of Patin catfish cultivation is influenced by several factors, one of the amino acid (lysine) in the commercial feed not only affects the metabolism of the fish but also the content of Omega-3 and Omega-6 would be found in the fish body. The result indicated that the addition of lysine in commercial feed for 30 days of this Patin catfish significantly increased the content of yolk protein and omega-6. The Patin catfish also need essential amino acids to meet their needs. The addition of lysine as an amino acid or its derivatives in the diet of broiler chickens improves the production performance as well as the physiological and immunological parameters, and consequently produce a healthier chicken. It can be demonstrated that the supplementation of WY, YCW, and YE increased significantly in broilers fed with WY, YCW, and YE. Therefore, the current experiment was conducted to study the effects of genotype (G) and weaning age (WA) interaction on growth traits in rabbits. Weaning age is an important factor that affects the growth and health of weaned animals. Multiparous doe rabbits were serviced to obtain the young rabbits where at the end of the fattening period, the difference was 105 g per animal with higher ADG. The observed results suggest the existence of relevant G×WA interaction for the investigated traits. Therefore, the weaning age of 29-35 days is recommended for young APRI rabbits while it is suggested to wean the V rabbits after 35 days.
B. abortus

ABSTRACT

The long period of raising carp shows that the addition of lysine as much as 2% in commercial feed can increase the energy retention and decrease conversion ratio in carp.

It can be concluded that the use of lysine has different effects related to the increase in influence on energy retention. Therefore, the aim of this study was to determine the influences of addition of lysine in feed on energy retention and feed conversion ratio of carp.

The present experiment was conducted for a year. The results showed that the addition of lysine as much as 2% in commercial feed can increase the energy retention of carp and decrease conversion ratio.

 Keyword: the addition of lysine by giving up to 2.5% cannot reduce the feed conversion ratio in carp.

The study aimed to evaluate the effect of protein and energy supplementation on the biochemical blood profile in Crossbreed Holstein cows raised in small stakeholder farmers in Yogyakarta from February to May 2020. Thirty multiparous Holstein cows were allocated to three treatment groups, namely T0 (basal diet), T1 (2.5% energy and protein supplementation), and T2 (5% energy and protein supplementation), in which the supplementation used corn and soybean meal was aimed to depress the stress from adaptive feeding. The cows were fed by added energy and protein supplementation. The diets designed for the three groups of Holstein cows raised in small stakeholder farmers in Yogyakarta from February to May 2020. Thirty multiparous Holstein cows were allocated to three treatment groups, namely T0 (basal diet), T1 (2.5% energy and protein supplementation), and T2 (5% energy and protein supplementation), in which the supplementation used corn and soybean meal was evaluated on biochemical blood profile in small stakeholder farmers in Yogyakarta from February to May 2020.