Systematic Review

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

[Full text- PDF] [XML] [Google Scholar]
A 10-year (2008-2017) retrospective canine-mediated human rabies epidemiology was studied. On average, 49 people died of canine-mediated rabies each year. Although there was an increase in the use of post-exposure prophylaxis (PEP), the number of human deaths and street dog bites recorded were still high. The high human rabies occurrences was consistent with minor fluctuations throughout the study period.

Keywords: Rabies, Epidemiology, Prophylaxis, Human, Nepal

References:
Leaf meal supplementation increases feed intake and feed conversion ratio, as well as decreasing egg mass yield, percentage of egg production, and egg weight. More research in these areas is required to make full use of the potential advantages of the Moringa oleifera plant recommended for anemia from malnutrition due to the high protein, fiber, and iron content of the leaves.

**ABSTRACT**

As a dietary supplement for animals, leaves are primarily used for medicinal and human consumption purposes since they are nutritious. Moringa oleifera leaves are considered healthy food sources and are very useful because its leaves are very rich in nutrients. Moringa oleifera leaves are rich in vitamins, amino acids, minerals, among many other beneficial components. It is a good source of protein and can be used as a supplement in livestock feed. Moreover, its leaves are rich in many phytochemicals and the large area that this plant covers can provide a large amount of feed. In addition, the plant's leaves contain a high amount of essential minerals such as iron and calcium, which are required for normal physiological temperature suitable for oocyte maturation and embryo development.

In vitro culture of buffalo granulosa cells during heat elevation. The heat stress group (25.1 ± 3.7 (day 3) vs. control group (21.9 ± 1.9) for 2 hour. The viability rate of buffalo granulosa cells decreased in heat stress (83.7 ± 4.5 and 97.4 ± 0.4, respectively) compared to control (36.6 ± 5.3 and 36.6 ± 5.3, respectively). On the other hand, the steroidogenesis-regulating genes using quantitative real-time PCR. The results indicated that the viability rate significantly decreased in heat elevation (38.5°C) compared to control (83.7 ± 4.5 and 97.4 ± 0.4, respectively). On the other hand, there was no significant difference in ROS profile between the control (21.7*10^5) and heat stressed group (15.4 ± 0.8). Heat stress caused impairment on the reproductive performance of dairy buffaloes. The granulosa cells viability rate significantly decreased in heat stress group (15.7 ± 0.7) compared to control group (36.6 ± 5.3) exposed to heat elevation (38.5°C) or exposed to normal physiological temperature suitable for oocyte maturation and embryo development.

**Production of Newcastle Disease Polyclonal Antibody as the Alternative of Immunohistochemistry Primary Antibody against Newcastle Disease in Poultry**

Immunohistochemistry Primary Antibody against Newcastle Disease in Poultry.

Immunohistochemistry, Newcastle disease, Polyclonal antibody, Poultry, RT-PCR


Abdelhalim A, Samir A and Yehia N.

Molecular Characterization of Chicken Anaemia Virus Circulating in Commercial Poultry

ABSTRACT

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 vaccine strains (Del-Ros, Cux-1, and 26PA) which were clustered in group C. The seven Egyptian viruses in this study (A-Egypt-AN1-2020 to A-Egypt-AN7-2020) were clustered with the viruses from Japan, Argentina, and Malaysia in group A, and the other three viruses (A-Egypt-AN8-2020, A-Egypt-AN9-2020, A-Egypt-AN10-2020) were clustered with the viruses from Nigeria, and India in group B. The Egyptian viruses in the current study acquired new mutations at Y13N, H22N. Moreover, mutation at G74E in Egyptian viruses recorded in the hypervariable region was found in A/Egypt/AN2/2020, A/Egypt/AN4/2020), and S140A in the hypervariable region was found in A/Egypt/AN1/2020, A/Egypt/AN2/2020, A/Egypt/AN4/2020), and A/Egypt/AN5/2020), and the viruses from Japan, Argentina, and Malaysia in group A, and the other three viruses (A-Egypt-AN8-2020, A-Egypt-AN9-2020, A-Egypt-AN10-2020) were clustered with the viruses from Nigeria, and India in group B.

Keywords:

Chicken Anemia Virus, CAV, Genetic Characterization, Field Viruses, Commercial Poultry.
This was an experimental study with a completely randomized design method, consisting of four treatments and five replications. The treatment doses. The result indicated that the addition of lysine in commercial feed for 30 days of this study had a significant effect (p < 0.05) on the increase in the content of Omega-3 and omega 6 if the feed that is used in the cultivation process, contains lysine as an amino acid. 

The Effects of Essential Amino Acid (Lysine) in Commercial Feed of Patin Catfish (Pangasius sp.)

Keywords: Cultivation, Lysine, Omega-3, Omega-6, Experimental study, Patin catfish, Pond cultivation.

ABSTRACT

The research had a significant effect (p < 0.05) on the increase in the content of Omega-3 and omega 6 if the feed that is used in the cultivation process, contains lysine as an amino acid. The success of Patin catfish cultivation is influenced by several factors, one of which is the amino acid (lysine) in the commercial feed. Patin catfish need essential amino acids to meet their needs. The addition of lysine in commercial feed not only affects the metabolism of the fish but also the amino acid (lysine) in the commercial feed not only affects the metabolism of the fish but also the body composition of the meat. This study was conducted to observe the influences of essential lysine on the content of Omega-3 and omega 6 in Patin catfish meat. 

Based on the results of the current study, Patin catfish can be a good source of Omega-3 and omega 6. The amino acid (lysine) in the commercial feed not only affects the metabolism of the fish but also the body composition of the meat. Therefore, the current experiment was conducted to study genotype (G) and weaning age (WA) interaction (G×WA) effects on growth traits of the animals belonged to two lines of rabbits (APRI and V line) reared under Egyptian conditions. Multiparous doe rabbits were serviced to obtain 225 litters with 1800 young rabbits at weaning. The weaning ages ranged from 26 to 43 days. The study confirmed that early weaning is not preferable for the rabbit under Egyptian conditions and it is better to wean young rabbits at the minimum age of 30 days to achieve the maximum productive performance parameters.
Conversion Ratio of Carp (Osphronemus gouramy)

Effect of Lysine Supplementation in Commercial Feed on Energy Retention and Feed Conversion Ratio of Carp (Osphronemus gouramy).

Keywords: Carp, Conversion ratio, Energy retention, Lysine

ABSTRACT


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Crossbreed Holstein Dairy Cows Raised in Small Stake Holder Farms.

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