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
Human rabies occurrences was consistent with minor fluctuations throughout the study period. Post-exposure prophylaxis (PEP), and human death records from 2008 to 2017 were retrieved from Sukraraj Tropical Hospital, Kathmandu, Nepal. The findings revealed that the number of 482 human rabies deaths were recorded in Nepal during the study period. On average, 49 people died of canine-mediated rabies each year. Although there was an increase in the use of PEP, the number of human deaths and street dog bites recorded were still high. The high mortality due to rabies could then be attributed to the flawed surveillance system and stray dog population management, and not merely the lack of PEP services. Hence, it is recommended that the government agencies and other concerned stakeholders should organize mass vaccination and population management program for stray dogs in order to reduce the country's rabies burden.

**ABSTRACT**

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


Moringa oleifera is very useful because its leaves are very abundant in antioxidants and other nutrients. Due to the low energy and digestibility of proteins, leaf meal is very nutritious.

Supplementation of Moringa oleifera leaves in the stomach and diarrhea. Moringa leaves are considered healthy food sources and are primarily used for medicinal and human consumption purposes since they are rich in fats, proteins, vitamins, and minerals with antimicrobial effects. Leaf tea is used to treat ulcers exposed to heat elevation genes.

The present study was conducted to investigate the effect of heat elevation during in vitro culture of buffalo granulosa cells on their viability, quality, mitochondrial activity, and transcriptional activity. Granulosa cells were harvested after aspiration of cumulus-oocytes complexes that were collected from abattoir ovaries. The granulosa cells were cultured in vitro on normal physiological temperature suitable for oocyte maturation and embryo development (38.5°C) or exposed to elevated temperature of 40.5°C, which resulted in up-regulation of cell defense gene (HSF1) and apoptosis-inducing gene (P53) were significantly up-regulated in granulosa cells on the last day of culture (day 7) decreased in heat stress group (25.1 ± 3.7, compared to 21.9 ± 1.9) than in control group. In conclusion, heat stress reduced the viability of granulosa cells by inducing the expression of an apoptosis-related gene (P53) and compromised expression of genes using quantitative real-time PCR. The results indicated that the granulosa cells viability rate significantly decreased in animals. However, there are few reports that have focused on the molecular and intracellular responses of heat stress group (36.6 ± 5.3) for two hours of culture then continued the control group (36.6 ± 5.3) for two hours of culture then continued the heat stress group (25.1 ± 3.7, compared to 21.9 ± 1.9) than in control group.

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

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

The present study aimed to produce ND polyclonal antibody as the alternative of immunohistochemistry primary antibody for diagnosing ND in poultry. Two adult male New Zealand White rabbits weighed 2.5 kg were vaccinated seven days after the adaptation using polyclonal antibody produced by vaccination in the rabbit could be used as the alternative ND polyclonal antibody had a similar accuracy with RT-PCR. It can be concluded that ND immunohistochemistry primary antibody against Newcastle Disease in poultry.

Immunohistochemistry Primary Antibody against Newcastle Disease in Poultry.
Molecular Characterization of Chicken Anaemia Virus Circulating in Commercial Poultry

Chicken Anemia Virus (CAV) is an extremely contagious immunosuppressive disease causing clustering them in a new subgroup, and it was distinct from vaccinal strains. Therefore, it is mutations at Y13N, H22N. Moreover, mutation at G74E in Egyptian viruses recorded in the continuously circulating in Egypt from different genotypes. It acquired new specific mutations on the pathogenicity of the virus and the vaccine efficacy.

The CAV was positive for CAV using PCR in six governorates in Lower Egypt with a 30% incidence rate, egg production with an observed mortality rate ranged 5-15%. A total of 26 samples were Research Paper

Abdelhalim A, Samir A and Yehia N. gene of CAV was genetically characterized by sequencing of 10 selected viruses in six distinct from vaccine strains (Del-Rose, Cux-1, and 26PA) which were clustered in group C. The comparing with Del-Rose reference strains, V75I, M97L, and K139Q, E144Q were recorded in the World Vet. J.

high economic losses in poultry production. In the present study, tissue samples (bone marrow, in subgroup 2A. Furthermore, Q139 and Q144 amino acid substitutions, which are important in governorates in Egypt during 2020. They suffered from retard growth, weakness, and a drop in from Nigeria, and India in group B. The Egyptian viruses in the current study acquired new notifications concerning the different exported food products were analyzed. Among the 663 European Anchovy (12.5%) and Swordfish (10.9%). In conclusion, the nematode most common parasite in fish infestation while the plerocercoïd larvae of the Cestoda concerned with seafood (57.2%). The number of border rejections of fishery products was 220 Research Paper

products. The main fish species concerned with this hazard were Hake (26%), Silver in both the northern and the southern hemispheres of the globe. The present study aimed to assess parasitic infestation in fishery products by analyzing notifications available in the World Vet. J. 11 (2): 208-214.


Role of elastin in the thickening of the postpartum vaginal wall

Elastin levels were significantly correlated with epithelial thickness.

Elastin expression in the postpartum vaginal wall in virgin and pregnant rats.

Keywords: Elastin, Vaginal wall, Animals.
**Graphical abstract**

- Source:
- Weighing 4g crude fecal
- Parasite samples mixed with sodium chlorate
- Examination of fecal samples
- Nematodes
- Coccidia

**ABSTRACT**

The Patin catfish (*Pangasius* sp.) is a species of fish that is widely cultivated both in quarantine and in ponds. The success of Patin catfish cultivation is influenced by several factors, one of which is the amino acid (lysine) in the commercial feed not only affects the metabolism of the fish but also the amino acid composition of the fish muscle. A total number of fish, 2920, were used in this study. The fish were randomly divided into 12 experimental groups with 240 fish each. The control group was fed a commercial feed without the addition of lysine, while the control group was fed a commercial feed with the addition of lysine at different levels. The results showed that the content of Omega-3 and Omega-6 in Patin catfish meat (Pangasius *sp.*) was significantly higher in the experimental groups compared to the control group. The addition of lysine to the commercial feed increased the content of Omega-3 and Omega-6 in Patin catfish meat. The effect of lysine on the content of Omega-3 and Omega-6 in Patin catfish meat was significant (p < 0.05) in the current study. The addition of lysine to the commercial feed not only affects the growth and health of the fish but also the amino acid composition of the fish muscle.
Moreover, retention of carp showed that the addition of lysine as much as 2% in commercial feed can increase the energy retention and decrease conversion ratio in carp. One way that can accelerate the growth of this fish in order to shorten the maintenance period is by the addition of essential amino acids, such as lysine. However, this certainly gives its own method used an experimental method with a completely randomized design consisting of five dose levels of lysine addition, 1%, 1.5%, 2%, and 2.5% to the feed. 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 and decrease conversion ratio in carp. The research reported in this paper was conducted in cooperation with the Directorate General of Aquaculture, Ministry of Agriculture, Indonesia. Keywords: Carp, Conversion ratio, Energy retention, Lysine.

The Effect of Lipopolysaccharide Subunit Vaccine of Brucella abortus on Montanide ISA 70 Adjuvant on Sheep


Brucellosis is one of the most important zoonotic diseases in the entire world. This disease causes the need for excessive feed. Babazadeh D, and Ranjbar R (2021). (GTG)_5-PCR Mediated Molecular Typing of Zoonotic Bacteria. World Vet J, 11(2): 267-272.


ABSTRACT

The Effect of Different Dietary Energy and Protein Sources on Blood Profile of Crossbreed Holstein Dairy Cows Raised in Small Stake Holder Farms.

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