Prevention and control of Newcastle disease: Challenges and strategies

Seyed Ali Ghafouri

Department of Clinical Sciences, Faculty of Veterinary Medicine, Ferdowsi University of Mashhad, Mashhad- Iran

Email: s_ali_ghafouri@yahoo.com

Newcastle disease is a constant threat to the poultry industry and a limiting disease for commercial poultry producers around the world, especially in underdeveloped and developing countries. It has been more than half a century since the first report of the disease in Iran. Despite the growing development of the poultry industry in the country as well as significant advances in the field of laboratory diagnostics at governmental, research, academic and private diagnostic centers, the disease is still considered to be the largest and most damaging disease in the poultry industry. Improving the productivity of the poultry industry and resolving economic problems is undoubtedly facilitated by the expansion of international trade and increased export of poultry products, in turn by preventing and controlling export-affecting diseases such as Newcastle disease. It will be possible with designing and implementing a national disease control program. The challenges associated with combating the disease can be addressed in three sections: the agent, the host, and the environment. Genetic changes and pathogenicity of circulating strains, and the ability to detect and identify them, are among the challenges associated with the agent. Regarding Challenges related to the host, species diversity and lack of attention to the three categories of commercial poultry, native poultry, and wild birds are discussed. In the context of environmental and management factors, problems with proper implementation of health and structural and operational biosecurity programs and also the inefficiency of vaccines and vaccination programs' failure should be considered. Therefore, it is necessary to provide effective strategies to combat this disease in the context of a national plan to address these challenges by trying to resolve them.