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# PREVALENCE OF INFECTIOUS DISEASES IN LOCAL AND FAYOUMI BREEDS OF RURAL POULTRY *(GALLUS DOMESTICUS)*

MUHAMMAD YASSER MUSTAFA AND SYED SHAHID ALI

*Directorate of Extension, Livestock and Dairy Development, Sheikhupura (MYM) and Department of Zoology, University of the Punjab, Quaid-e-Azam Campus, Lahore-54590 (SSA), Pakistan.*

**ABSTRACT:** A field study was conducted to investigate the prevalence of the various poultry diseases in domestic rural fowl in Distt. Sheikhupura. The disease prevalence was found high (57%) in Fayoumi than local breed *i.e.*, Desi hens (43%). The overall prevalence of various diseases was, Newcastle (40.33%), *E.coli* (5%), Infectious bronchitis (2.66%) chromic respiratory disease (7%) Infectious coryza (8.33%) and Salmonellosis (6.33%) Fowl pox (15.66%) Hydro-pericardium (4%) Coccidiosis (10.66%) and Avian influenza (Nil). Proper management was recommended to ensure good sanitation and proper vaccination for effective diseases prevention.

**Key Words:** Bacterial infections, viral infections, poultry diseases, new castle, coccidiosis, fowl pox.

## INTRODUCTION

Pakistan is an agriculture country whose more than 70% populations live in villages. Their lives mainly depend upon agriculture and Livestock. Women in villages are particularly involved in rearing poultry for income generating by selling eggs and poultry.

Poultry not only plays an important role in narrowing the gap between the demand and supply of protein of animal origin but also provides and efficient mean of income generation in small scale. The poultry industry has now recognized as an important sub sector of the agriculture (Mushtaq, 1994). According to the Economic survey of Pakistan (2005-06), the number of Desi and Fayoumi hens are 36.5 million.

Although poultry enterprise has developed with a rapid speed but still some infectious diseases pose a serious threat for the survival of poultry farming especially at small scale. A number of infectious and non-infectious diseases have wide prevalence in poultry inflicting heavy economic losses (Qureshi, 1981). The major poultry disease include Newcastle disease, *E.coli*, infectious Coryza, Infectious bronchitis, Coccidiosis, Enteritis, Fowl Pox, Salmonellosis, Hydro- pericardium and Avian influenza (Vyslouzil and Dhonal, 1988; Javed *et al.*, 1994; Khan *et al.*, 2000; Bano *et al.*, 2003). The diseases spread in rural poultry due to poor vaccination, poor feed, housing and also through wild and migratory birds (Khawaja *et al.*, 2005).

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Although several studies have been conducted to find out the prevalence of the poultry disease at provincial (Ikhwan and Shamshir, 1994), National (Anjum, 1990) and International (Malkani *et al.*, 1998) level but no systematic study has been conducted in Tehsil Muridkey Distt. Sheikhupura pertaining to the prevalence of the house rearing or small-scale poultry diseases.

Therefore, the present filed study was conducted to investigate the prevalence of different diseases, which will provide baseline data for effective prevention, and control of infectious diseases in rural poultry.

## MATERIALS AND METHODS

For this field study, a total of 300 sick/dead Desi (local breed) and Fayoumi hens were examined during 2005 in and around Tehsil Muridkey. The diagnosis of the diseases was done through observing symptoms and post-martum examination of the effected birds. The bacterial and viral diseases were differentiated in the laboratory at University of Veterinary and Animal Sciences, Lahore, by examining the growth on McConkey agar by incubating the suspected materials at 37°C for 24-28 hours. The growth obtained was identified by various biochemical and sugar fermentation tests following methods described by Coles and Miles (1989). The results were then analyzed statistically by using simple score test (Nam, 1995).

## RESULTS AND DISCUSSION

In this field study, results obtained regarding overall prevalence of various diseases in two breeds reared domestically in rural areas were found more (57%) in Fayoumi than Desi hens (43%). The overall incidence of different diseases were recorded. Newcastle (40.33%), *Escherichia coli* (5%), Infectious bronchitis (2.66%) chronic respiratory disease (7%) Infectious coryza (8.33%), Salmonellosis (6.33%) Fowl pox (15.66%) Hydro-pericardium (4%) and Coccidiosis (10.66%). Avian influenza prevalence was found to be nil in both breeds.

The prevalence of various diseases recorded in Fayoumi hens were Newcastle (24.66%), *E.coli* (3.66%), Infectious bronchitis (2%) CRD (4.33%) Infectious coryza (5.66%) and Salmonellosis (3.33%), Fowl pox (4%), Hydro-pericardium (2.33%) and Coccidiosis (7%).

In Desi hens the prevalence of diseases recorded was Newcastle (15.66%), *E.coli* (1.33%), Infectious bronchitis (0.66%) CRD (2.66%) Infectious coryza (2.66%) and Salmonellosis (3%), Fowl pox (11.66%), Hydro-pericardium (1.66%) and Coccidiosis (3.66%).

This has been observed in this field study that Newcastle disease was found to be the major disease in rural poultry in Fayoumi than Desi hens while Fowl pox was high in Desi than Fayoumi hens as shown in Table 1. The prevalence of these diseases are due to improper vaccination and through interaction with those domestic birds not vaccinated for these diseases and also from migratory birds. The results are in accordance with the results of Khan *et al.* (2000) and Vyslouzil and Dohnal (1988).

The other major disease found during study was Coccidiosis whose findings were almost in conformity with those reported by Pervaiz *et al.* (1987) and Khan *et al.* (2000) however, they are not in accordance with those reported by Ikhwan and Shamshir (1994), also have observed 4% coccidiosis in Distt. Swat. Coccidiosis was found one of the major ailments of rural poultry. In spite of advances made in prevention, control still seems to be a major problem in our country (Qureshi, 1981). This disease is related to improper management and sanitary conditions as its oocysts may survive as long as 86 weeks in shaded soil. This disease can be reduced through good management and preventive measures. Infectious coryza disease was also found high in Fayoumi than Desi hens which is due to cold season, improper housing without proper ventilation and close contact of birds. The results are in accordance with Khan *et al.* (2000). Other diseases almost having similar prevalence rate in both Desi and Fayoumi hens.

Infectious diseases especially of viral origin, their occurrence could be due to poor preventive measures, unhygienic conditions, poor vaccination, poor brooding arrangements, contaminated water and feed, lack of interval between successive crops and poor knowledge about rearing the poultry on scientific basis.

**Table 1: Prevalence of various infection Diseases in Fayoumi and Desi breeds of poultry with their frequencies.**

| Disease | Frequency | Percent | Fayoumi | Desi |
|---|---|---|---|---|
| Newcastle disease | 121 | 40.33% | 24.66% | 15.66% |
| Infectious coryza | 25 | 8.33% | 5.66% | 15.66% |
| Infectious bronchitis | 8 | 2.66% | 2% | 2.66% |
| Chronic respiratory disease | 21 | 7% | 4.33% | 0.66% |
| Avian influenza | Nil | Nil | Nil | Nil |
| Hydro-pericardium | 12 | 4% | 2.33% | 1.66% |
| Salmonellosis | 19 | 6.33% | 3.33% | 3% |
| *E.coli* | 15 | 5% | 3.66% | 1.33% |
| Coccidiosis | 32 | 10.66% | 7% | 3.66% |
| Fowl pox | 47 | 15.66% | 4% | 11.66% |
| Total | 300 | 100% | 57% | 43% |

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