

A Retrospective Study (2004-2008) of Poultry Diseases Diagnosed in Veterinary Teaching Hospital (Vth), Usmanu Danfodiyo University Sokoto (Udus) and Sokoto Veterinary Centre (Svc), Sokoto State, Nigeria.

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Abstract: A retrospective study of clinical records in the Veterinary Teaching Hospital, Usmanu Danfodiyo University Sokoto (VTH-UDUS) and Sokoto Veterinary Centre (SVC) was carried out to establish the occurrence and distribution of poultry diseases over the period of five years (2004-2008). A total of 1,034 cases were recorded out of which 337 (32.9%) was Infectious bursal disease (IBD), 147 (14.0%) was coccidiosis, while 128 (12.4%) and 102 (9.9%) were Newcastle disease (NCD) and Fowl typhoid (FT) respectively. Other diseases/conditions with lower occurrences include Fowl cholera (FC), Malnutrition/starvation and the highly pathogenic avian influenza (HPAI) with 33 (3.2%), 17 (1.6%) and 2 (0.26%) cases respectively. The highest prevalence of 50% (515 cases) was indicated in viral diseases and the least was from malnutrition/starvation with only 1.6 % (17 cases) recorded. Dry period represented the period of increased disease occurrence of 71% (788 cases) which on comparison to that of dry season 29 % (246 cases) revealed statistically a significant difference ($p < 0.05$) by the Chi-square analysis. The years 2005 and 2008 recorded the highest 272 (26%) and the lowest 127 (12.3%) disease occurrences respectively. Poor management, inappropriate vaccine handling and self medication practices by the poultry farmers in conjunction with lack of facilities and awareness on diagnostic laboratory services may be associated with the distribution pattern of cases recorded in the clinics.

Key words: Avian influenza, Newcastle disease, Infectious bursal disease, Fowl typhoid, Coccidiosis, Sokoto.

INTRODUCTION

Chickens originated from several wild species of the jungle fowl of south-east Asia, which were as 200 BC and have been subjected to breeding practice to increase the productivity of meat and egg (Bhatti, 1989). In Nigeria, chickens are the most important of the poultry species in terms of number and development (Oluyemi and Roberts, 2000). The exotic breeds are managed intensively using either battery cages or deep litter system of management, while the local are managed extensively and are allowed to scavenge food for survival. The major constraints in raising these chickens is the substantial economic losses (David-West, 1972) due to different diseases of which viral infections account for the highest percentage of the mortality in chickens because of their contagious nature (Adeboyega, 1999). Although analysis of the poultry diseases has been conducted in some part of the country (Abdu *et al.*, 1985; Saidu *et al.*, 1994), complete information on the prevalence of poultry diseases in Sokoto State is scanty (Adamu, 2008) hence the need for this study. Therefore, the main objectives of this study is to determine the distribution of poultry diseases diagnosed over a five year period (2004-2008) in Sokoto State and suggest control measures to the problem.

MATERIALS AND METHODS

Data on cases of diseases of poultry presented to the Veterinary Teaching Hospital, Usmanu Danfodiyo University Sokoto (VTH-UDUS) and Sokoto State Veterinary Centre (SSVC) for five years (2004-2008) were considered for this study. Diseases were diagnosed based on flock history, clinical signs and post-mortem findings. However, some of the cases were confirmed by laboratory analysis among them were two suspected outbreaks of the Highly Pathogenic Avian Influenza in exotic and local breeds of chickens that were recorded in the months of December, 2006 and February, 2007 respectively; the diagnoses of which were confirmed by the department of viral research of the National Veterinary Research Institute, Vom. Figures recorded in the study period were obtained from case files/registers and post-mortem reports. The distribution pattern of the poultry diseases in those five years was analyzed using proportion and simple percentage methods. The level of significance between the occurrence of diseases in the dry season (November-April) and rainy season (May - October) was determined using Chi-square test.

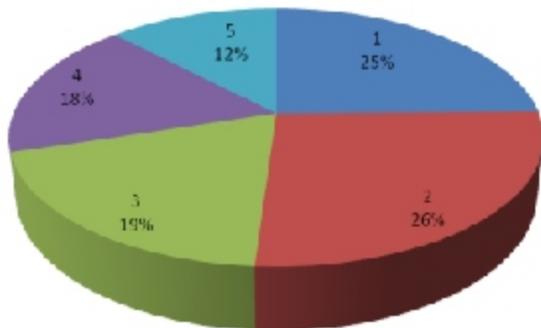
Table 1: Prevalence of poultry disease in Sokoto State from 2004-2008

Diseases	2004	2005	2006	2007	2008	Total
Cannibalism	4	4	10	8	4	40 (3.86%)
Coccidiosis	41	49	14	28	15	147 (14.21%)
CRD	18	19	11	6	4	58 (5.60%)
Fowl cholera	8	16	3	4	2	33 (3.19%)
Fowl pox	7	17	6	10	8	48 (4.64%)
Fowl typhoid	27	34	21	14	6	102 (9.86%)
Heat stress	17	20	5	8	2	52 (5.02%)
Parasitism	9	17	21	15	8	70 (6.76%)
HPAI	0	0	1	1	0	2 (0.26%)
IBD	95	44	84	60	54	337 (32.59%)
Malnutrition and Starvation	3	2	6	2	4	17 (1.64%)
NCD	27	40	16	25	20	128 (12.37%)
Total	256 (24.8%)	272 (26.2%)	198 (19.2%)	181 (17.5%)	127 (12.3%)	1,034 (100%)

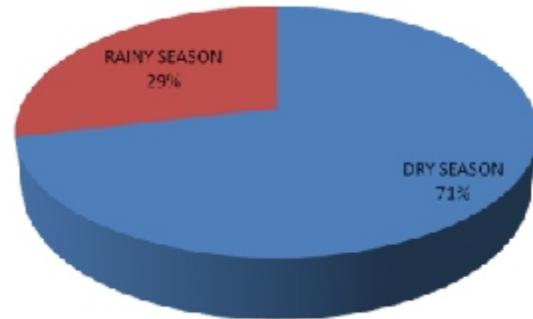
CRD = Chronic respiratory disease, HPAI = Highly pathogenic avian influenza, IBD = Infectious bursal disease, NCD = Newcastle disease

RESULTS AND DISCUSSION

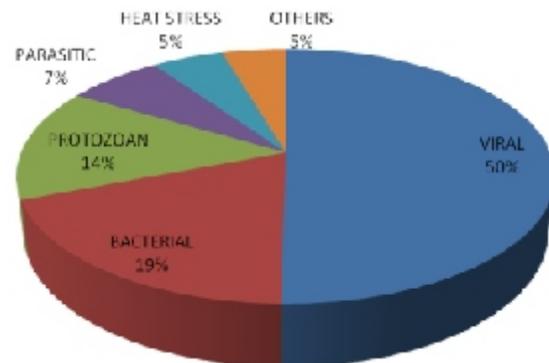
A total of 1,034 cases of poultry diseases were recorded during the five year period of the study, giving an average of about 206.8 cases annually (Table 1). Of the disease conditions diagnosed, IBD has the highest rate of occurrence (32.6%), followed by Coccidiosis (14.2 %), NCD (12.4 %) and the least occurrence was observed with Avian influenza (0.26%) as shown in (Table 1). On yearly distribution, highest occurrence of the diseases was observed in 2005 (26%), followed by 2004 with (25%) and the least of (12%) was recorded in 2003 (Fig. 1) The highest number recorded in 2005 was due to increased establishment of backyard poultry farms in Sokoto state, while the drop in number of cases in year 2008 could be attributed to the upsurge of the highly pathogenic avian influenza in the country. The monthly distribution of cases indicates a steady rise from November through January to peak in April, coinciding with the stressful weather of the dry season. It also coincides with the period of increased activities such as preparation and sales of birds during the festive periods, increased demand for eggs and re-stocking and breeding of day old chicks thus, prevalence revealed statistical significance ($p < 0.05$)



KEY: 1= 2004, 2= 2005, 3= 2006, 4= 2007, 5= 2008 YEARS
 Fig 1: Distribution of poultry diseases in Sokoto State by year from 2004-2008



KEY: Dry season (November to April) Rainy season (May to October)
 Fig 2: Seasonal distribution of poultry diseases in Sokoto State from 2004-2008 ($p = 0.05$)



KEY: OTHERS = Malnutrition/starvation and cannibalism
 Fig 3: Distribution of poultry diseases in Sokoto State by aetiologic agent from 2004-2008

by Chi-square analysis (Fig. 2), which correlates with findings of Abdu *et al.* (1992) and Olabode *et al.* (2008). Viral diseases of poultry indicated the highest prevalence of 50% (515 cases) and the least was an increase rate of spread of diseases. The seasonal malnutrition/starvation with only 1.64% (17 cases) recorded (Fig. 3). Dry season (November to April) represented the period of increased disease occurrence of 71% (738 cases) which revealed statistical significance ($p < 0.05$) by Chi-square analysis (Fig. 2).

CONCLUSION

In conclusion, poor management, inappropriate vaccine handling and self medication practices by the poultry farmers in conjunction with lack of facilities and awareness on diagnostic laboratory services may be associated with the distribution pattern of cases recorded in the clinics.

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