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A RETROSPECTIVE (2004-2006) STUDY OF POULTRY DISEASES DIAGNOSED IN BENIN, EDO STATE, NIGERIA

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SUMMARY

A retrospective study of records of the outstation diagnostic and investigation laboratory, National Veterinary Research Institute Vom and State Veterinary Clinic, Benin City was carried out to establish the occurrence and distribution of Poultry diseases over a period of three years (2004-2006). Out of the 730 cases, 216 (29.6%) were Newcastle disease, 104 (14.2%) was Coccidiosis, while 83(11.4%) and 82(11.2%) were Infectious bursal disease and Fowl typhoid respectively. The least included malnutrition/starvation, cannibalism and the highly pathogenic avian influenza with 31 (4.2%), 23 (3.2%) and 2 (0.3%) cases respectively. However, viral diseases of poultry indicated the highest prevalence of 45.3% (331 cases). Dry season (November-April) represented the period of increased disease occurrence of with 67.4% (492cases), which revealed statistical significance ($P<0.05$) by chi square analysis. The year 2005 also recorded the highest disease occurrence of 311cases (42.7%). Poor vaccine handling, management and quack practices amongst poultry farmers, in conjunction, with lack of facilities and awareness on laboratory diagnoses may be associated with the distribution pattern of cases recorded in the clinic.

KEYWORDS: Prevalence, Poultry diseases, Edo State, Nigeria

INTRODUCTION

Chickens originated from several wild species of jungle fowl from South East Asia, which were domesticated as early as 200BC and have been subjected to breeding practice to increase the productivity of meat and eggs (Bhatti, 1989). They are generally described as a genus of the avian species that are grown and domesticated throughout the world. In Nigeria, chickens are the most important of the poultry species in terms of number and development. The exotic breeds are managed intensively using either battery cages or deep litter, while the local breeds are managed extensively. The major constraint in raising these chickens is the substantial economic losses (David-West, 1972), due to diseases of which viral diseases account for the highest percentage of mortality in chicken because of their contagious nature (Adeboyega, 1999). Although, analysis of 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 Edo state is scanty, hence the need for this study.

MATERIALS AND METHODS

Data Collection

Data on cases of diseases of poultry presented to both the state Veterinary Clinic and Diagnostic & Investigation Laboratory, National Veterinary Research Institute (N.V.R.I), Vom in Benin City for three years (2004-2006) were considered for this study. The cases recorded in this period of study were obtained from casebooks, files and post mortem records in the clinic.

Diseases were diagnosed based on flock history, clinical signs, and post mortem findings. In addition, some of the cases were confirmed by laboratory analysis. However, the Viral Research Department of the N.V.R.I, Vom, confirmed the two suspected cases of the Highly Pathogenic Avian Influenza. The distribution pattern of the poultry diseases reported to the clinic in Benin City, was analyzed using proportional (percentage) data presentation.

Statistical Analysis

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.

RESULTS AND DISCUSSION

A total 730 cases of poultry diseases were recorded during the period of study. This gives an average of about 243 cases annually. The year 2005 recorded the highest number of cases (42.7%), while the year 2006 recorded the lowest with 25.3% cases, (Table I). This may be due to increased establishment of recent backyard poultry farms in Edo state, while the drop in number of cases and poultry activities in year 2006 could be attributed to the upsurge of the highly pathogenic avian influenza outbreaks in the country.

TABLE I: Prevalent poultry diseases in Edo state (2004-2006)

Diseases	2004	2005	2006	Total
IBD	27	40	16	83(11.4%)
Newcastle disease	77	95	44	216(29.6%)
Coccidiosis	41	49	14	104(14.2%)
Fowl pox	7	17	6	30(4.1%)
Fowl typhoid	27	34	21	82(11.2%)
Fowl cholera	6	16	3	25(3.4%)
CRD	15	19	11	45(6.2%)
Cannibalism	5	4	14	23(3.2%)
Helminthiasis and Ectoparasitism	9	17	21	47(6.4%)
Heat stress	17	20	5	42(5.8%)
Malnutrition and Starvation	3	-	28	31(4.2%)
HPAI	-	-	2	2(0.3%)
Total	**234(32.1%)**	**311(42.7%)**	**185(25.3%)**	**730**

The monthly distribution of cases indicates a steady rise from November through January to peak in April, as shown in Table II. This represents the dry season when the weather is stressful. It also coincides with the periods of increased poultry activities such as preparation and sales of birds during the festive periods, increased demand for eggs and re-stocking and brooding of day old chicks thus, an increase rate of spread of diseases. The seasonal prevalence revealed statistical significance ($P<0.05$) by chi-square (Table III), which correlate with the findings of Abdu, *et al;* 1992.

TABLE II: Monthly distribution of diseases during the period 2004-2006

Diseases	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sept	Oct	Nov	Dec	Total
IBD	15	1	18	26	-	1	-	1	6	5	5	5	83
Newcastle disease	34	18	30	37	12	6	1	-	1	3	43	31	216
Coccidiosis	8	-	11	7	16	22	20	19	-	1	-	-	104
Fowl pox	7	2	7	3	1	-	1	-	-	-	2	7	30
Fowl typhoid	24	14	13	8	12	-	4	1	1	-	3	2	82
Fowl cholera	1	-	4	-	8	2	-	-	-	3	2	5	25
CRD	8	6	4	1	-	1	-	-	-	3	11	11	45
Cannibalism	1	3	-	-	-	6	8	2	-	-	2	1	23
Helminthiasis and Ecotoparatism	-	-	-	5	13	11	15	2	1	-	-	-	47
Heat stress	-	6	12	21	2	-	-	-	-	-	-	1	42
Malnutrition and Starvation	1	-	-	3	9	11	6	-	-	1	-	-	31
HPAI	-	-	-	-	-	-	-	-	-	-	1	1	2
Total	**99**	**50**	**99**	**111**	**73**	**60**	**55**	**25**	**9**	**16**	**69**	**64**	**730**

TABLE III: The distribution of diseases by season

Season	No. of cases	Percentage (%)
Dry season (Nov-April)	492	67.4
Rainy season (May- October)	238	32.6
Total	730	100

Out of the 730 cases, 216 (29.6%) were Newcastle disease, 104 (14.2%) was Coccidiosis, while 83(11.4%) and 82(11.2%) were Infectious bursal disease and Fowl typhoid respectively. The least included malnutrition/starvation, cannibalism and the highly pathogenic avian influenza with 31 (4.2%), 23 (3.2%) and 2 (0.3%) cases respectively, as shown in Table I. However, viral diseases of poultry indicated the highest prevalence of 45.3% (331 cases) as shown in Table IV, with Newcastle disease recording the highest occurrence rate. This is in line with observations of other studies in other parts of Nigeria (Abdu *et al.*, 1985; Adeboyega, 1999; Saidu *et al.*, 1994). The high records of these viral diseases could be associated with complications arising from poor vaccine handling and vaccinations by farmers, which result in viral environmental contamination.

TABLE IV: The distribution of diseases by aetiologic agent

Aetiologic Agent	No. of cases	Percentage (%)
Viral	331	45.34
Bacterial	152	20.82
Protozoan	104	14.24
Helminthiasis and Ectoparasitism	47	6.43
Other	96	13.15
Total	**730**	**100**

The pattern of disease distribution so observed is suggestive of the demand for veterinary services and management practices amongst farmers where indiscriminate and unprescribed use of antibiotics is a routine thus making diagnosis difficult when cases are presented to the clinic. Hence, the need to enlighten poultry farmers in Edo and its environs on the need to avoid quackery, improve farm biosecurity and personal safety measures, in addition, to the need for an adequate laboratory back up as a diagnostic tool for an effective control of infectious poultry diseases.

CONCLUSION

In conclusion, this study provides preliminary information on the pattern of poultry diseases prevalent around Benin-city, Nigeria.

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