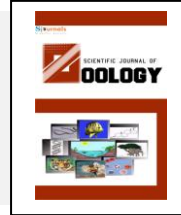


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**Original article**

## Survey of poultry diseases among exotic breeds of poultry in Katsina metropolis, Katsina state, Nigeria

**S. Ukashatu<sup>a,\*</sup>, A.S. Magaji<sup>a</sup>, G. Najamuddeen<sup>b</sup>, M.A. Saulawa<sup>c</sup>**

<sup>a</sup>*Department of Animal Health and Production Technology, Hassan Usman Katsina Polytechnic Katsina state, Nigeria.*

<sup>b</sup>*College of Agriculture, Hassan Usman Katsina Polytechnic, Katsina State, Nigeria.*

<sup>c</sup>*Faculty of veterinary Medicine, Usmanu Danfodiyo University Sokoto, Sokoto State, Nigeria.*

\*Corresponding Author; Department of Animal Health and Production Technology, Hassan Usman Katsina Polytechnic Katsina state, Nigeria.

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### ABSTRACT

A survey of some predominant poultry (exotic breeds) diseases was carried out in Katsina metropolis, Katsina state, Nigeria using an oral interview and a close ended questionnaire which was issued to 30 selected Poultry Farm Owners within the study area after a thorough consultation of the records at the State Veterinary Clinic. The disease found includes, Coccidiosis (23.42%), Infectious Bursal Disease (IBD) (14.57%), Newcastle Disease (NCD) (14.28%), Chronic Respiratory Disease (CRD) (13.14%), Pullorum Disease (10.57%), Fowl pox Disease (8.28%), fowl typhoid disease (7.14%), Marek's disease (5.14%), Heat stroke (2.57%), and Fatty Liver Syndrome (0.85%) were also recorded in significant percentages across the study area. According to the data obtained from the Respondents, NCD, IBD, Coccidiosis, Pullorum disease, CRD and Marek's disease have the highest economic impact in their business. As such a complete biosecurity measures should be imposed to the farms and also a proper medication and vaccination schedule should be adhered to as well.

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## 1. Introduction

Poultry production is an important part of farming in many parts of the world including Nigeria. The major attracting factor in poultry production is probably the tendency of providing a fairly rapid return on capital (Abdulkadir, 2002). The term poultry refers to wide variety of birds of several species kept for meat, eggs or games that are alive or dressed. They include chickens, ducks, geese, turkey, guinea fowl, pigeon, pea cock and ostriches (Banurjee, 1998).

Poultry farming is the management of domestic birds raised for food and other purposes (Akinsoye, 1992). The fowl has been domesticated since 200BC, zoologically the fowl belong to genus; *Gallus* of the family *Phasianidae*. The domestic fowl is called *Gallus domesticus*, and the ancestors of domestic chicken originated in South East Asia and have been subject to extensive breeding for size, color pattern, conformation and egg laying ability during long domesticated history, (Johnson *et al.*, 1999).

In Nigeria, poultry farming is highly distributed and the demand for poultry products for human consumption is fairly high, poultry serves as source of food, source of income, source of organic fertilizer, use in scientific research and production of raw materials such as feathers used for mattress and yolk for bread making in bakeries (Usman, 1995).

Poultry diseases occur more frequently in either dry or rainy season (Johnson *et al.*, 1999). However, there are indicators at the veterinary clinics in Nigeria that chronic respiratory disease occurs more in the wet season and particularly at the early part of the rains, NCD occurs at about the middle of the rainy season, Coccidiosis and internal worms are potentially hazardous to poultry flock during rainy season, there was occasional heat stroke during hot spells and birds of all ages are susceptible to diseases but most birds get infected in early few weeks of life. From general survey and interview with many poultry farmers in Katsina metropolis, the most common type of poultry production is broilers and layers production with a few duck and turkey, (Banurjee, 1998). The aim and objective of this study is to determine the most prevalent and most important poultry disease to commercial poultry producers in Katsina metropolis.

## 2. Materials and methods

### 2.1 Study area

Katsina state is located on latitude 13° 00N and longitude 07° 36 E with altitude of 182.82 to 457 meters above sea level. Katsina is having a population of 459,002 (NPC, 2006). It falls into the ecological zone of Sudan Savannah, characterized by a short rainy season with annual rainfall of about 500 to 800 mm from June to October. It has a minimum and maximum temperatures between 21°C and 35°C and it also has temperature variations, where it is cool in the morning, hot in the afternoon and cool again in the night in the month of December to March, the area has a relative humidity of 20% to 40% in January, rising to 60% to 80% in July (Sunmap, 2011).

### 2.2 Data collection

The data was collected through the use of 30 closed-ended questionnaires and organized informative oral interview with selected poultry farm owners using their local language (Hausa language). The questionnaires carried questions such as level of literacy, occupation, production system, and knowledge about any of the poultry disease, what are the common control methods of these diseases in your farm, access to veterinary services, prevalence rate of the diseases and mortality rate.

### 2.3 Data analyses

The data obtained from the distributed questionnaires were analyzed using Descriptive statistics.

## 3. Results

Out of the 30 farms surveyed in Katsina metropolis, Katsina state in 2011, 24 (80%) were found to be practicing intensive system of management, while 13.34% (4) and 6.66% (2) were involved in semi-intensive and extensive system of management respectively (Table 1).

Figure 1 shows the frequency of poultry disease occurrence in the 30 surveyed farms within Katsina metropolis in 2011, Coccidiosis (23.42%) was found to be the most prevalent disease affecting the poultry farmers in Katsina metropolis, while Fatty liver syndrome (0.85%) was found to be of lower prevalence.

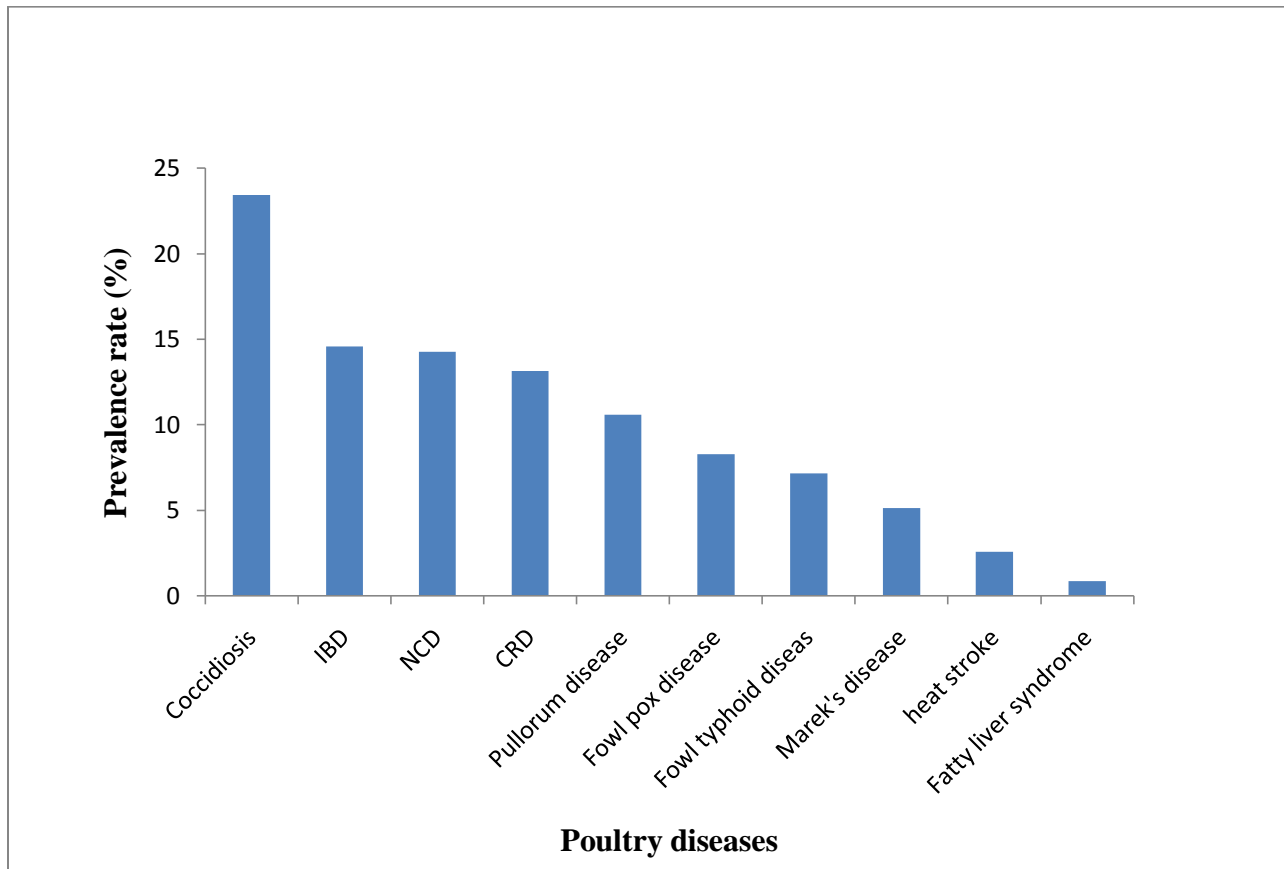
While Figure 2 shows the mortality rate recorded in the 30 surveyed farms of Katsina in 2011, Coccidiosis (18.07%) was found to be highly prevalent and also fatty liver syndrome (1.48%) was the lowest among other diseases.

**Table 1**

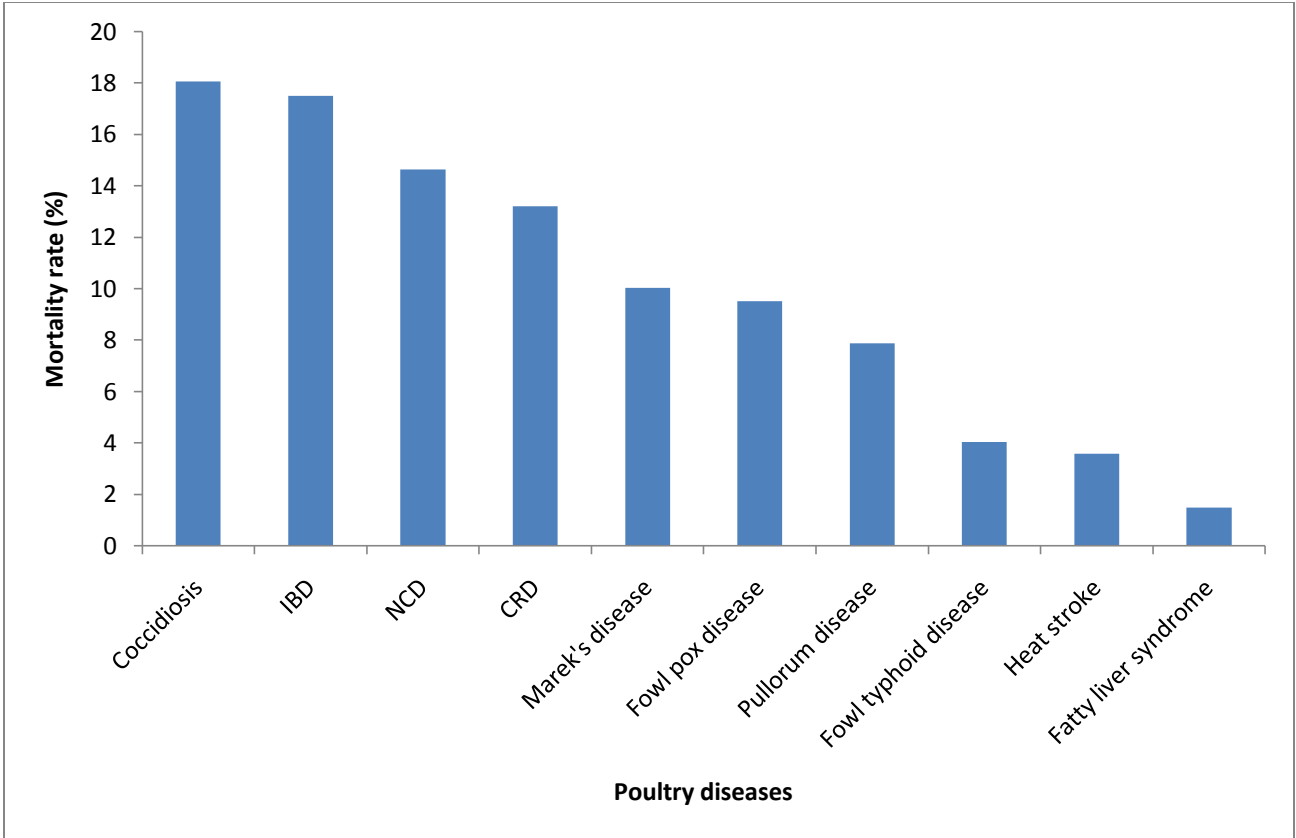
Management System practiced by the surveyed poultry farms in Katsina metropolis, Katsina state, Nigeria.

Management system	No of Respondents	Percentage (%)
Intensive System	24	80.00
Semi Intensive System	4	13.34
Extensive System	2	6.66
TOTAL	30	100

Source: Field Survey, 2012.



**Fig. 1.** Prevalence of the diseases in 30 surveyed poultry farms in Katsina metropolis in 2011 as mentioned by the farm owners.



**Fig. 2.** Mortality Rate of the surveyed diseases as mentioned by poultry farm owners in Katsina metropolis in 2011. Source: field survey, 2012 (Source: field survey, 2012).

#### 4. Discussion

85% of the poultry farms owners interviewed are literates as such they are well enlightened about these predominant poultry diseases found within the study area and this makes the control of the diseases easier, especially because all the farms surveyed have access to veterinary services. These diseases are not seasonal most of the diseases observed in this research can be prevented through vaccination, proper bio-security, good management system and proper use of antibiotics and Coccidiostats (Bala *et al.*, 2012). 84% (24) of the surveyed farms in this study are practicing intensive system of management and are therefore aware of the economic impact of these diseases to the poultry production. Coccidiosis (23.42%) was found to be more prevalent in this study, which is contrary to the findings of Bala *et al.*, (2012) and Bukar-Kolo *et al.*, (2004) who reported that Newcastle disease is more prevalent in Nasarawa (100%) and Gombe (14.66%) states, Nigeria. This could be as a result of the differences in geographical location and environmental conditions and also system of management which always play a major role in determining the prevalence of a particular disease. The high prevalence of coccidiosis seen in this study may be as a result of not taking preventive measures (vaccination) against the disease (coccidiosis) and prophylactic treatment using Coccidiostat as feed additives. According to the data obtained from the study, Newcastle disease (14.28%), IBD (14.57%), Coccidiosis (23.42%), Pullorum disease (10.57%), CRD (13.14%) and Marek's disease (5.14%) have the highest economic impact on their business because this diseases causes high morbidity and mortality rate within the shortest possible time if found in a flock. Based on the data generated on the most prevalent poultry diseases in Katsina metropolis, Katsina state, Nigeria; a proper bio security programme should be mounted on the farms, adhering to vaccination schedules is highly recommended, good managemental system, proper medication and deworming are also recommended.

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