SUB-THEME: ANIMAL HEALTH AND WELFARE

INDISCRIMINATE USE OF ANTIBIOTIC IN COMMERCIAL POULTRY FARMS.

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ABSTRACT

Indiscriminate antibiotic used in food-producing animals have become important and a threat to public health, this is as a result of the continual use of the antibiotics in poultry. The study was aimed to determine the attitude and practices of 20 commercial poultry farms using questionnaires on indiscriminate use of antibiotics in Paiko, Niger State, Nigeria. The results showed that, majority, 18(90.0%) of poultry farms used one or more antibiotics, while most, 8(44.4%) administered antibiotics for prophylactic purposes, and mainly through drinking water 12(66.7%). Many, 13(72.2%) did not observed withdrawal periods, while most, 16(88.9%) consulted feed/drug sellers before using antibiotics, and many, 17(94.4%) purchased antibiotics from local vendors. This study indicated indiscriminate use of antibiotics by poultry farmers in the study area. It is anticipated that the finding of this study would help in motivating all the stakeholders to enforce laws on prudent farm practices by all commercial farmers in Paiko, Niger State, Nigreia.

Key words: Poultry farming, antibiotic usage, broiler, genetic, paiko.

INTRODUCTION

Poultry farming in Nigeria is going through progressive but well defined product differentiation in response to consumer and industry demand (Chukwuka, *et al*., 2010). It was described as the most commercialized of all the agricultural sub-sectors in Nigeria (Central Bank of Nigeria 'CBN', 2019). It is a source of protein that plays an important role in human nutrition (Adelowo, *et al*., 2019a). Modern intensive farming unit can produce market ready broiler chicken in less than six weeks (Apata, 2012). These successes emanate from enhanced productivity by means of genetic selection, improved feeding and health management practices involving usage of antibiotic (Apata, 2012). In many developing countries majority of the antibiotics are being used in poultry for prophylaxis and therapeutic (Hassan, *et al*., 2010). Antibiotics are also used to enhance production of higher output as healthier animal with increased weight put on more weight, and the meat derived from these healthier animals has low levels of bacteria that can cause food borne diseases in people (Apata, 2012). The economic and health advantages of proper use of many antibiotics have revolutionized intensive poultry farming. Antibiotics have made intensive poultry system to become a lucrative form of business. However, inappropriate used of antibiotic in poultry farming can lead to serious consequences on public health (Rinsky, *et al*., 2013). Furthermore, lack of awareness programs and widespread dependency of farmers on the use of antibiotics in poultry farming are the additional factors that contribute worsen this problem (Oluwasile, *et al*., 2014). Therefore, the aim of the study is to determine the attitude and practices of commercial poultry farmers on indiscriminate use of antibiotics in poultry farms in Paiko, Niger State, Nigeria.

MATERIALS AND METHODS

The scope of the study was limited to Paiko the administrative headquarters of Paikoro Local Government Area, about 22Km South of Minna, the Niger State capital, it lies within latitude 9º26'0'North of the Equator and 6º38'0" East of the Green meridian with an area of about 80 Km^2 on a scale of 1: 40,000. The rainfall is between 150 to 250mm and usually peak between July and September. The mean temperature is between 22ºC to 25ºC (National Population Commission "NPC", 2009; and Usman, *et al*., 2015). Data were collected using well structure questionnaires which were random distributed among 20 commercial poultry farms. Data was analyzed using descriptive statistic (frequencies and percentages), as frequency table is used in knowing the trend relation to a particular variable (Ayenwale and Adeyemo, 2011).

RESULTS AND DISCUSSIONS

Result of this study focused onto farmers' attitude regarding the use of antibiotics in Paiko (Table 1). Out of the 20 selected poultry farms in Paiko, 18(90.0%) used one or more antibiotics for their birds. The use of antibiotic in almost all the farms surveyed is worrisome and may be due to a number of reasons. The quest to produce more poultry meat (chicken) to satisfy demand for animal protein, which currently lags the supply (Njoga, *et al*., 2018), may be one of the reasons. The findings' concur with Oladeji, *et al*. (2022) who in their works reported extensive use of antibiotics in commercial

poultry farms. However, the economic and environmental benefits from antibiotic use in animal production must be weighed against the risk for the development of resistance (Da Costa, *et al*., 2013). Most, 8(44.4%) farms used antibiotics for prophylactic purposes. Prophylactic administration of antibiotics may be conducted to compensate for substandard farm management conditions', to prevent frequently occurring poultry diseases (Mubito, *et al*., 2014). This finding is in consistence with Tasneem, *et al*. (2020) who reported that, 84.7% of farms used antibiotics prophylactically on commercial broiler and layer chickens' farms in Bangladesh, India. However, the report on the use of antibiotics for growth promotion in the study area is less, it could be that the use of antibiotics as growth promotion might represent a considerable cost for farmers, and therefore, they might refrain from using antibiotics for this purpose (Islam, *et al*., 2016). The percentage of farmers who administered antibiotics in water was high 12(66.7%). Commercial poultry farms probably used mainly antibiotics for oral administration because they are convenient for mass administration in poultry reared in semi-intensive or intensive production environments. However, the use of orally administered antibiotics should be monitored in Paiko as it has been demonstrated elsewhere that this route is more prone to misuse from inappropriate dosing and promotes the development of antibiotics resistance (Simoneit, *et al*., 2015). The observed of antibiotic withdrawal period in the present study was low 5(27.8%). The poor observance of withdrawal periods in the present study could be attributed to the absence of monitoring by the stakeholders to regulate the antibiotics of poultry farmers. Additionally, excessive quest for economic gains may be contributory to non-observance of withdrawal period. This finding is closely related to the finding of Paul, *et al*. (2021) who documented low 24.2% observe required withdrawal period in layer poultry farms in Gombe metropolis, Northeast Nigeria. It has been shown in this study that antibiotic usage on commercial poultry farms is strongly driven by advice provided from feed/drug sellers 16(88.9%). The relationship between the feed/drug sellers and representatives of drug companies to achieve target sales might be the reason behind influencing farmers' behaviors in using antibiotics (Mas'ud, *et al*., 2020). This finding is consonance with Tasneem, *et al*. (2020) who reported that farmers bought antibiotics most frequently from local vendors (feed/chicks traders) in Bangladesh, India. However, the result is contrary to the findings Idris (2022) who published that 100% of the farmers sourced their antibiotics from veterinary stores. The response rate was lower when asked about purchasing of antibiotics from veterinary stores. Most of them 17(94.4%) were purchased antibiotics motivated by local vendors. This might be as a result of few available veterinary stores in the study area. However, this finding is contrary to Oluwasile, *et al*. (2014) who stated that, only 8.6% source their antibiotics from local vendors.

Table 1: Farmers attitude regarding the use of antibiotics in Paiko (n = 20)

Items	Categories	Frequency (%)
Use of antibiotics	Yes	18(90.0)
	No	2(10.0)
Reason for antibiotic usage	Prophylaxis	8(44.84)
	Therapeutic	3(16.7)
	Prophylaxis and therapeutic	5(27.8)
	Sub-therapeutic	2(11.1)
Method of administration	Drinking water	12(66.7)
	In feed	2(11.1)
	Water and feed	4(22.2)

Withdrawal period	Yes
13(72.2)	
	No
5(27.8)	
Prescription	Veterinarian
0(0.0)	
	Animal health worker
2(1.1)	
	Feed seller/self
16(88.9)	
	Sub-therapeutic
11(11.0)	
Purchasing of antibiotic	Veterinary store
1(5.6)	
	Self or someone else
17(94.4)	

Conclusion

The study concludes that the use of antibiotics in commercial poultry farms in Paiko was high (mainly for prophylaxis). Inappropriate use of antibiotics was common with poor observance of withdrawal periods. The inappropriate use of antibiotics could lead to the emergence and transmission of resistant bacteria. Therefore, the study suggests adequate enforcement of the regulations on appropriate farm practices by all concerned stakeholders.

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