

CAMEL (*Camelus dromedarius*) DISEASES PREVALENCE AND ETHNO–VETERINARY MEDICINE (EVM) USE APPROACHES BY CAMEL KEEPERS IN NORTHERN JIGAWA STATE, NIGERIA

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ABSTRACT

This study was designed to investigate the Ethno–Veterinary Medicine (EVM) use approaches of camel keepers at Kazaure Local Government Area of Jigawa State, Northwest Nigeria. Thirty (30) structured questionnaires were administered to purposively selected camel keepers and data generated were subjected to descriptive statistics. Majority (43.00%) of the respondents had over 50 years of experience in keeping camel, while the most common herd size (70.00%) was between 5–10 camels. *Dermatophilosis* (37.00%) was most prevalent disease condition while with common diseases while observable signs of diseases (70.00%) were scratching of the body. The disease was also more prevalence in the rainy season (46.67%). EVM (60.00%) remain the major animal healthcare approach adopted by the camel keepers while route of drugs administration (26.00%) were topical application. Since EVM remains a widely accepted animal healthcare option among the camel keepers at the study location, further studies should be carried out to elucidate the actual practice of the camel keepers.

Key words: Camels, *dermatophilosis*, diseases, ethno–veterinary medicine

INTRODUCTION

Camels are very tough, energetic and healthy animals, but, like other animals, they still required care and maintenance (Scott, 2009). In spite of this, there are still some infections that affects the camels both externally and internally (Kent, 2001). Animal health, production and management in the tropics are facing a serious set–back as a result of inadequate facilities and inputs to keep the system of production at sustainable level. In most of the tropical countries, camel (*Camelus dromedarius*) owners do not patronize available conventional veterinary services due to the believe that camels are hardy and resist disease conditions to some extent (FAO, 2001). EVM practices are however common among the pastoralists across the world and have been found to be effective despite recent difficulties (Kent, 2001). Camel keepers also exploit EVM approaches to treat their animals suffering from various degrees of infection across different seasons of the year (Scott, 2009). In this context, there is need to elucidate information on the current EVM approaches and practices at specific location in Nigeria, since such information could add to what is known, and could also be useful in policy formation on the subject matter.

The objective of this study therefore to determine of EVM use approaches by camel keepers in Jigawa State, Northwest, Nigeria.

MATERIALS AND METHOD

The study was conducted at Kazaure Local Government Area of Jigawa State. The State covers an estimated land area of 22,410 square kilometers and shares boundary with the Niger Republic to the North, Katsina, Kano and Yobe States to the west, south and east respectively. The population of the State was 4,348,649 during the 2006 national head count (NPC, 2006). Jigawa State is located in the Sudan savannah vegetation belt that is characterized by hot and dry climatic conditions. The hottest temperature ranges from 20.6°C to 32°C while the annual rainfall is 687mmHg (JARDA, 2006). The livestock types kept in the area include: cattle, camel, sheep, goat and poultry. Camels are particularly are particularly kept in the area as tough and hardy for burden bearing, meat and milk.

Data collection

The study lasted for three (3) weeks. Thirty (30) structured questionnaires were administered to purposively administered to camel keepers at Kazaure Local Government Area of Jigawa State, Nigeria to capture their biodata, camel production experiences, diseases prevalence and treatment approaches.

Data analysis

The data collected were summarized and analyzed using simple descriptive statistics (Frequencies and Percentages).

RESULT AND DISCUSSION**Biodata of the respondents**

Biodata of the respondents were presented in Table 1. Majority (33.33%) of the respondents fell within the age range of 41–60 and >60 years. This is in agreement with Ghude *et al.*, (2012) who reported that camel production in Northern Nigeria not a practiced by younger generations. All the camel keepers were males while most (83.00%) were engaged in both into crop and camel production and only 10.00% engaged into camel keeping only. Also, 83.00% of the camel keepers in the study area attended Islamic schools while only 17.00% obtained primary school leaving certificate.

TABLE 1: Personal data

Parameters	Frequency	Percentage
Age		
0 – 20	3	10.00
21 – 40	7	23.34
41 – 60	10	33.33
> 60	10	33.33
Total	30	100
Occupation		
Full time camel rearer	3	10.00
Crop farmer/camel rearer	25	83.00
Trading/farmer/camel rearer	2	7.00
Trading/camel rearer	-	-
Civil servant/camel rearer	-	-
Total	30	100
Level of education		
Qur'anic	25	83.00
Primary	5	17.00
Secondary	-	-
Tertiary	-	-
Total	30	100

Source: Field survey, 2016

Experience in camel production

Table 2 showed that 43.00% of the respondents had over 50 years experience in camel keeping followed by 41–50 years as identified by 33.00%. Most of them were engaged in pastoral practice from childhood. Although they may not own their herds at younger age but they participate fully in all the activities as earlier reported by Wilson, (1998). Herd size is small in the study area with 70.00% of keepers possessing between 5–10 camels and only

17.00% owned more than 30 camels respectively. Camel herd size in the Tropics and some Asian countries is small due to the practice of subsistence agriculture (Wilson, 1998).

TABLE 2: Experience in camel production

Parameters	Frequency	Percentage
Years of experience		
0 – 10	-	-
11 – 20	2	7.00
21 – 30	5	17.00
31 – 40	-	-
41 – 50	10	33.00
> 50	13	43.00
Total	30	100
Herd size		
5 – 10	14	70.00
11 – 15	3	10.00
16 – 20	1	3.00
21 – 30	-	-
> 30	6	-
No response	5	17.00
Total	30	100

Source: Field survey, 2016

Diseases experience and Season of the disease infection

In Table 3, the camel keeping experience in identifying various diseases and infections were presented. A skin infection (*Dermatophilosis*) was more prevalence in camels as identified by 37.00% of the respondents followed by 33.00% that identified ecto-parasites. The observable signs included scratching of the body (70.00%) and loss of appetite (13.00%). According to Kent, (2001), tick infestation is the major camel health problem that causes substantial economic losses, particularly in tropical and subtropical countries where approximately 80% of the world's dromedary camel population is raised. Higher prevalence of infection was observed during early rainy season (46.67%) and late dry season (23.33%). An improved veterinary treatment protocol that includes improved hygiene and general supportive treatment decreases the significance of such skin disease in camels and enhances response of animals to the utility activities (Scott, 2009).

TABLE 3: Diseases experience and season of the disease infection

Parameters	Frequency	Percentage
Types of diseases affecting camels in your area		
Endo – parasites	3	10.00
Ecto – parasites	10	33.00
<i>Dermatitis</i>	11	37.00
Physical injury	4	13.00
Eye problem	2	7.00
Total	30	100
Observable Signs of diseases		
Emaciation	3	10.00

Loss of appetite	4	13.00
Scratch of the body	21	70.00
Discharge from the nose	-	-
Coughing/sneezing	-	-
Discharge from the eye	2	7.00
Total	30	100
Season of disease infection in your herd		
Early rainy season	14	46.67
Late rainy season	3	10.00
Early dry season	-	-
Late dry season	7	23.33
No response	6	20.00
Total	30	100

Source: Field survey, 2016

Treatment applied (method of application) and types of drugs used

Table 4 shows the treatment/methods and types of drugs used by camel keepers in treating *dermatophilosis*. Sprinkling, spray and dusting methods was largely practiced as indicated by 43.00% of the respondents followed by 26% who used application (rubbing) method. This is in agreement with the report of FAO, (2008) that the application method and administration of ethno veterinary drugs (EVDs) is through the use of traditional methods are usually done through the use of traditional methods. EVDs were adopted and in use as indicated by 60.00% of the camel keepers, while 26.67% seemed to avoid any use of medication. This is in agreement with the report of Kent, (2001) that tropical and in some Asian countries extensively exploits EVDs in the treatment of camel diseases.

TABLE 4: Treatment/method applied and types of drugs used

Parameters	Frequency	Percentage
Method of administering the treatment		
Oral	5	17.00
Application (Rubbing)	8	26.00
Injection	2	7.00
Intra ocular	2	7.00
Sprinkling/Spray/dusting	13	43.00
Dipping	-	-
Total	30	100
Types of drugs in use		
Veterinary drugs	4	13.33
Ethno – veterinary drugs	18	60.00
No response	8	26.67
Total	30	100

Source: Field survey, 2016

CONCLUSION AND RECOMMENDATION

Most of the camel keepers at Kazaure Local Government Area of Jigawa State employ EVM in the healthcare of their animals. Since EVM remains a widely accepted animal healthcare option among camel keepers at the study locations, further studies should be carried out to elucidate the actual EVM practice of the camel keepers.

REFERENCES

- FAO, (2001). Statistical record book. Food and Agriculture Organization. Rome, Italy. Retrieved from <http://www.fao.org/ag/againfo/themes/en/dairy/camel.html>. on 7 July, 2014.
- Ghude, M. I., Bitto, I. I. and Maigandi, S. A. (2012). Prevalence of one humped camel (*Camelus dromedarius*) diseases in Zamfara State, Nigeria. In: Akpa, G. N., Dairo, F.A.S., Bawa, G. S., Solomon, I. P., Amaefuele, K. U., Odunsi, A. A. and Ladokun, A. O. (eds). Proceedings of the 17th Annual Conference of Animal Science Association of Nigeria held in Abuja, 9th–13th Sept. 2012. Pp 160–162.
- JARDA (2006). Jigawa State Agricultural and Rural Development Authority, Media and Publicity Department, Dutse, Nigeria.
- Kent, M. (2001). Camels diseases and preferred treatment: A traditional approach. *Int. J. Vet. Med.* 41: 201–208.
- NPC, (2006). Year 2006 National head count official result. National Population Commission., HQs, Abuja, Nigeria.
- Scott, B. (2009). An investigation on camel health kept under pastoral production system. *J. Anim. Sci. Res.* 23: 43–49.
- Wilson, R. T. (1998). The Camels (*Camelus dromedarius*). Macmillan Education Ltd., London.