

PERCEPTION OF LIVESTOCK FARMERS ON THE NATURE OF LAMENESS IN CATTLE IN BAUCHI AND GANJUWA LOCAL GOVERNMENT AREAS OF BAUCHI STATE, NIGERIA

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ABSTRACT

Lameness in the cattle has received little attention in Nigeria, despite the fact that it is becoming an important health management concern. The objective of this study was to evaluate farmers understanding of the disease and its management in herds around Bauchi and Ganjuwa Local Government Areas. Eighteen communities and two livestock markets were visited and evaluated. Using a semi-structured questionnaire, respondents were asked open and closed questions on lameness in cattle and other parameters. Flexible discussions were allowed with the interviewer. A visual assessment of lameness using a Modified Visual Locmotion Score (VLS) was later conducted in some of the farms. Descriptive statistics and chi – square were used to evaluate responses to individual questions, and identify any differences between means. All the respondents were male and about 34% above 41 years. Lameness detection and treatment was performed by 7% and up to 11% never treat it. Majority (89%) of the respondents never received any training on lameness and 11% have self-trained themselves. Farmers underestimated the prevalence by just 1% compared to the researcher's VLS score of 4.9%. There was significant ($p < 0.0001$) variations in farmers' approaches to treatment protocols using both systemic and conservative methods. The study identified 4 major causes of lameness: injuries (55%), infections (23%), feeds and long journeys 11% each. It was observed that farmers usually intentionally neglect lame animals especially at early stage and lack adequate knowledge of recognition and treatment. Other areas of concern are those that can easily be overcome if veterinary and extension services are provided. However, future work to quantify and address the problems highlighted is urgently needed.

Key words: Lameness, perception, livestock, cattle, farmers

INTRODUCTION

Lameness in dairy herds continues to represent a serious issue, having detrimental impacts on animal welfare, milk production, and farm economics globally. Lameness constitutes any foot or leg condition of infectious or non-infectious origin that negatively impacts cow mobility, posture, and gait (Archer *et al.*, 2019). In dairy cows, the main cause of lameness is claw lesions, which are either non-infectious (white line disease, sole ulcer, sole hemorrhage, interdigital hyperplasia) or infectious, including digital dermatitis (DD), interdigital dermatitis, heel erosion, and interdigital phlegmon (foot rot) (Van Nuffel *et al.*, 2015). Lameness in cows ignites a negative chain, with many impacts on both the farmer and the cow, including reduced milk yield (approximately 20% reduction), loss of reproduction, lack of weight gain, and often, animal culling. Symptoms of clinical infectious lameness include fever, anorexia, reduced milk yield, pain, swelling, and loss of mobility. Lameness in subclinical cases of disease is often not present, but the level of milk production can begin to decline (Langova *et al.*, 2020), highlighting the importance of early detection. The reduced milk yield will continue, while pain levels become more profound as feed intake declines due to an unwillingness to stand or move for food. The increasing demand for animal-based food products has promoted intensive farming systems and an increase in animal disease and reduced animal welfare (Afonso *et al.*, 2020), proliferating the issue. Lameness caused by digital dermatitis (DD) or Mortellaro (M) and foot rot is highly contagious, transmitting throughout the dairy herd and persisting chronically (Ramanoon *et al.*, 2018).

MATERIALS AND METHODS

The study will be conducted in Bauchi Local Government Area of Bauchi State. Convenience sampling was employed where 18 herds and two livestock markets farms were recruited. The inclusion criteria was farm having a herd of at least 10 adult cattle at the time of study. About two Hundred and thirty farmers were approached using semi structured questionnaires and face to face

interview. Respondents were asked open and closed questions to estimate lameness prevalence and other parameters before VLS was performed on some of the animals. Respondents were asked open and closed questions to estimate lameness prevalence and other parameters. Flexible discussions were allowed with the interviewer. Questions asked include: herd's population, number of lame animals, treatment, level of training etc. Locomotion Score was performed on some of the animals using a 3 – Point scale VLS protocol. Descriptive statistics and chi – square were used to evaluate responses to individual questions, and identify any differences between means. Microsoft Excel (Microsoft Windows Version 10) and SPSS Version 22 were the analytical tools.

RESULTS AND DISCUSSION

Table 1: Prevalence of Lameness in cattle using Modified VLS

Location	Number herds	of Number cattle	of VLS 0	1	2	Total lame	animal % of lame	animals
Farms	7	1719	1642	68	9	77	4.48	
Markets	2	384	365	16	3	19	4.94	
Total	9	2103	2007	85	9	96	4.56	

Table 1 above shows the prevalence of Lameness in cattle using Modified VLS. The result showed that markets had the highest percentage of lame cows (4.94%). The result supported the findings of Langova *et al.* (2020) in his study on lame cattle.

Table 2: Farmers' perceptions using Systemic Treatment of Lameness in Cattle in Bauchi

Treatment Type	Frequency of usage					Total	Chi - square	df	Cont. Coef.	p - value
	Never	Sometimes	Unsure	Often	Always					
Antibiotic Topical	80 (10.1)	58 (7.3)	20 (2.5)	20 (2.5)	21(2.6)	199 (25.0)	116.323	12	0.357	0.0001
Antibiotic injection	32 (4.0)	99 (12.4)	20 (2.5)	48 (6.0)	0 (0.0)	199 (25.0)				
Pain relief	62 (7.8)	59 (7.4)	30 (3.8)	27 (3.4)	21 (2.6)	199 (25.0)				
Ethno-vet	32 (4.0)	99 (12.4)	20 (2.5)	48 (6.0)	0 (0.0)	199 (25.0)				
Total	206 (25.9)	315 (39.6)	90 (11.3)	143 (18.0)	42 (5.3)	796 (100.0)				

Table 3: Farmers' perceptions using Conservative Treatment of Lameness in Cattle in Bauchi (%)

Treatment Type (Other)	Level of Treatment					Total	Chi - square	df	Cont. Coef.	p - value
	Never	Sometimes	Unsure	Often	Always					
Foot Block	169 (21.2)	0 (0.0)	0 (0.0)	10 (1.3)	20 (2.5)	199 (25.0)	451.515	12	.602	0.0001
Foot Bath	61 (7.7)	98 (12.3)	20 (2.5)	20 (2.5)	0 (0.0)	199 (25.0)				
Bandage/Wrap	82 (10.3)	36 (4.5)	41 (5.2)	40 (5.0)	0 (0.0)	199 (25.0)				
Herbal Drugs	21 (2.6)	25 (3.1)	41(5.2)	82 (10.3)	30 (3.8)	199 (25.0)				
Total	333 (41.8)	159 (20.0)	102 (12.8)	152 (19.1)	50 (6.3)	796 (100.0)				

The result in Table 2 above shows the farmers' perceptions using Systemic treatment of lameness in cattle in Bauchi. The result indicated that, most of the respondents never use antibiotics (10.1%). Also majority (12.4%) sometimes use tropical antibiotic injection. 7.8% of the respondents also said they have never used pain relief on their animal suffering from lameness and 12.4% of them used ethno veterinary medicine. The results correlates the findings of Afonso *et al.* (2020).

Table 3 above shows the farmers' perceptions using conservative treatment of lameness in cattle in Bauchi. The result reviewed that, majority of the farmers never used foot block (21.2%) and sometimes use foot bath (12.3%) while majority of them also never used bandage or wrap (10.3%) and are unsure of herbal drugs (10.3%). The results supports the findings of Ramanoon *et al.* (2018)

CONCLUSION AND RECOMMENDATIONS

It was concluded that, farmers can recognize lame animals but usually have less attention to prevent or treat especially at early stage. It was therefore recommended that, farmers should be encourage to improve their knowledge on identification and treatment of lameness in cattle which is key in the control of the disease. Also, preventive measures, with the aid of a veterinarian, must be implemented if the problem is expected to be controlled.

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