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Herd health management practices of indigenous cattle in Gaushalas

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Abstract
The present investigation was carried out to study the " Herd health management practices of Indigenous cattle in Gaushalas". Data were collected from 30 Gaushalas from 10 districts of Haryana, during the period started from April, 2017 to February, 2018 through interview using a structured questionnaire. These 30 Gaushalas were divided into three categories based on total number of animals as small (100-500 animals), medium (501-1000 animals) and large (>1000 animals). Using a pretested interview schedule data were collected and analyzed on existing facilities for rescue, transport and herd health management practices followed at the selected Gaushalas. SPSS (SPSS version 22) was employed to analyze the data. Availability of man-power, availability of vehicle, availability of veterinarians in small, mediun and large Gaushalas was 30.00%, 70.00% and 100.00%; 20.00%, 40.00% and 70.00%; and 30.00%, 60.00% and 100.00% respectively. Healthcare management practices like vaccination, deworming and isolation of sick animals in small, mediun and large Gaushalas was 100.00%, 100.00% and 100.00%; 50.00%, 80.00% and 90.00%; and 30.00%, 60.00% and 100.00%. It could be concluded that the aavailability of man-power, aavailability of vehicle and aavailability of veterinarians as well as vaccination, deworming and isolation of sick animals at selected Gaushalas were better in large Gaushalas compared to small and medium Gaushalas.

Keywords: Herd health, cattle, Gaushalas, vaccination, deworming, isolation

Introduction

Gaushalas are the protective shelters for stray, abandoned, handicapped, and infirm cattle and prevent road accidents and crop damage, prevent premature death of these cattle due to consumption of polythene bags along with that they also provide rescue and treatments of sick, injured and accidental animals. These sick animals need the attention of veterinary services. As soon as the first symptom of a disease is noticed, efforts should be made for its timely treatment. The farmers should observe their animals at least twice a day. In livestock too, prevention is better than cure. The farmers should adopt various disease prevention and control practices to maintain their stock healthy. India has the largest cattle population in world with 190.90 million heads of cattle (2012) and these cattle have huge diversity which is directly related to the adaptation in various agro-climatic condition (Notter, 1999) [7]. Indigenous cattle have the character of being more resistant to extreme conditions and play an important role in the adaptation in that region to climate change (Aynalem *et al*, 2014) [2].

Materials and Methods

The present study was conducted in 420 Gaushalas of Haryana with aim to identify the herd health management practices adopted by the different category of Gaushalas. Out of these 420 Gaushalas only 30 Gaushalas were selected by stratified random sampling from 10 district (these were Sirsa, Hisar, Fatehabad, Bhiwani, Jind, Sonipat, Kurukshetra, Karnal, Kaithal and Panipat) which represents 83 percent of the total Gaushalas present in Haryana. Theses 30 Gaushalas were divided in to three groups on the basis of number of animals present in Gaushala, the animal numbers ranges from 100-500 were categorise as small size Gaushala (n=10), while 501-1000 animals and >1000 animals are categorised as medium (n=10) and large size Gaushala (n=10) respectively. The data were collected in 30 Gaushalas from 10 districts (Haryana) during April, 2017 to February, 2018 from the Gaushalas through interview using a structural questionnaire and onsite observation on existing facilities for rescue, transport and treatment practices like availability of vehicle with loading and unloading facilities, availability of man-power for rescue of the cattle, availability of vehicle for the rescue and transport of cattle and availability of veterinarians in emergency condition by interview schedule. Health protection measures like vaccination of cattle, deworming, quarantine and isolation of sick animals also by interview schedule. The collected data were scored, compiled, tabulated using Microsoft excel, 2010 and the data were subjected to

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analysis of variance (ANOVA) and comparison between treatment groups was made by Turkey 'test using SPSS 22 (SPSS version 22, SPSS Inc. Chicago, Illinois) as per procedure described by Snedecor and Cochran (1994).

Result and Discussion
Availability of man-power
Existing facilities for rescue, transport and treatment practices followed by the different category of Gaushalas are presented in Table 1. Majority (66.67%) of the Gaushalas of Haryana had manpower for rescue of stray, abandoned, handicapped and infirm cattle housed in the premises of Gaushala. Whereas, cent percent of the large category Gaushalas had manpower followed by medium category Gaushalas (70.00%) and small category Gaushalas 30 percent.

Availability of vehicle
Availability of vehicle with *loading* or *unloading* operations for transport of rescued cattle such as stray, abandoned, handicapped and infirm. Table 1 depicted that 43.33 percent of the Gaushalas of Haryana had vehicle for transportation of stray, abandoned, handicapped, and infirm cattle. In case of the large category Gaushalas (70.00%) had vehicle followed by medium category Gaushalas (40.00%) and small category Gaushalas 20.00 percent.

Availability of veterinarians
Availability of veterinary doctor at Gaushala for the treatments of sick, injured, accidental, handicapped and infirm cattle. Table 1 indicated that, majority (63.33%) of the Gaushalas of Haryana had a veterinary advisor that visited the farm every working days. In case of Gaushalas, category wise data indicated that cent percent of the large category Gaushalas had veterinarians followed by medium category Gaushalas (60.00%) and small category Gaushalas 30.00 percent.

Vaccination
The most of routine healthcare management practices like vaccinations, deworming, quarantine and isolation of sick animals are summarized in Table 2. Vaccination is the administration of a vaccine (a microorganism in a weakened or killed state, or proteins or toxins from the organism.) to help the immune system develop protection from a disease and also they help to prevent sickness from an infectious disease. Table 2 indicated that cent percent of the Gaushaas of Haryana followed vaccination practices such as foot and mouth disease (FMD) vaccines during post monsoon season (October) and Haemorrhagic septicaemia (HS) vaccines during pre monsoon (April to June). Similar finding reported by Yogendra (2010) [9] in field condition of Haryana. Contrary to these finding reported by Hazarika and Anand (1984) [4] and Sethi (1976) [8].

Deworming
Deworming is the giving of an anthelmintic drug to a animal to rid them of helminth parasites such as roundworm, flukes and tapeworm. The table 2 revealed that, 73.33 percent of the Gaushalas of Haryana were followed deworming of animals. Whereas 90.00 percent of the large category Gaushalas practiced deworming followed by medium category Gaushalas (80.00%) and small category Gaushalas 50 percent. Yogendra (2010) [9] reported similar finding i.e. 80 percent deworming carried out by the farmers in field condition of Haryana. Contrary to these finding

reported by the Nataraju and Channegowda (1987) [6]; Hazarika and Anand (1984) [4].

Quarantine
Quarantine facilities are used to separate newly imported *animals* or *animals* with communicable disease conditions from others in the colony. Table 2 indicated that, 6.67 percent (only 20.00% of the large category Gaushalas) of the Gaushalas of Haryana had quarantine facility.

Isolation of sick animals
Disease may develop within herd at any time, so you will look to separate sick animals to protect your healthy animals. Table 2 revealed that, majority (63.33%) of the Gaushalas of Haryana state were followed isolation of sick animals. Cent percent of the large category Gaushalas had followed isolation of sick animals followed by medium category Gaushalas (60.00%) and small category Gaushalas 30 percent. Contrary to these finding reported by Khupse *et al.* (1980) [5] and Bhoite and Shinde (1987) [3].

Table 1: Facilities for rescue, transport and treatment adopted by different categories of Gaushalas

Practices	Size of Gaushalas							
	Small		Medium		Large		Overall	
	N	%	N	%	N	%	N	%
Availability of man-power	3	30.00	7	70.00	10	100	20	66.67
Availability of vehicle	2	20.00	4	40.00	7	70.00	13	43.33
Availability of veterinarians	3	30.00	6	60.00	10	100	19	63.33

Table 2: Preventive healthcare management practices adopted by different categories of Gaushalas

Practices	Size of Gaushalas			
	Small	Medium	Large	Overall
Vaccination	10	10	10	30 (100)
Deworming	5	8	9	22 (73.33)
Quarantine	0	0	2	2 (6.67)
Isolation of sick animals	3	6	10	19 (63.33)

Conclusion
Availability of man-power, vehicle and veterinarians are reported as a greater availability in large category Gaushalas and healthcare management practices like vaccination, deworming and isolation of sick animals practices were better in large Gaushalas compared to small and medium Gaushalas.

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