PATTERN OF LIVESTOCK HEALTH CARE SERVICES IN BANSWARA DISTRICT OF RAJASTHAN

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ABSTRACT

Animal healthcare services (AHS) are crucial for the profitability and sustainability of smallholder livestock production systems. Availability of veterinary services is very important for development of livestock sector in India. The preference of service providers depend upon the location, distance, livestock holding and capacity to pay and quality of services. This paper focuses on animal health delivery system, morbidity and mortality patterns in livestock of tribal remote areas of Banswara district. A total of 120 tribal livestock owners were drawn from eight villages of two tehsils of Banswara district of Rajasthan. The data from respondents were collected through the specially designed and pre-tested interview schedule. The study revealed that the majority of the respondents (63.33%) were getting advice from Veterinary Officer/Livestock Assistant (LSA) for surgical affections, preferred traditional healer/*Vaid*at village for treatment of medicinal problems (46%), Veterinary Officer/LSA (70.83%) followed by quacks (21.67%) for gynaecological problems, vaccinated their animals in veterinary hospital as well as in animal health camps organized by animal husbandry department (40%), dewormed their animals on advice of Veterinary Officer/LSA (55%). Regarding the frequencies of mode of approach, only about 27 per cent were always calling veterinary expert at doorstep, sometime scalling veterinary expert at doorstep (73.33%), sometimes visited without diseased animals (45%) but about 31 per cent took their diseased animals at animal health service centre. Predominant diseases among cattle and buffalo were repeat breeding, metritis, diarrhoea, parasitic infections, pneumonia and poisoning. Parasitic infections, pox, pneumonia, diarrhoea and acidosis were found as major problems among goats of the study area.

***Key words**:* Animal healthcare services, livestock, traditional healer

Introduction

India has one of the largest animal health infrastructure and technical expertise in the world. It directly provides the services which are either delivered free of charge or with subsidies (Ahuja and Redmond, 2004). Animal health service delivery system is an abstraction which is used to describe the way in which knowledge, skill and other resources related to animal health are organized within an economy for the delivery of services to animals and their keepers. They further stated that the purpose of animal health services delivery system is to optimize the use of resources and improve the welfare of the animals and humans by reducing diseases (Mlangwa and Kisauzi, 1994). Animal health service in most production systems covers three main areas i.e. animal health production, human health protection and extension services. It is fact that animal health services are directly related to the production. Besides management, animal health plays a major role in the progress of livestock industry. The demand for livestock service delivery is increasing because of increase in population and improved livelihoods. Among various services, an effective and efficient animal health care service delivery system is of paramount importance in India.

The primary function of veterinary infrastructure remains provision of clinical veterinary services. Over 75 per cent of the staff in these institutions is committed to the delivery of curative veterinary care and artificial insemination (AI) services (Ahuja *et al.,* 2003a). The professionals responsible for disease control account for a meager 3.5 per cent of the total staff, supplemented by limited vaccination input by para-veterinary staff.

The availability and quality of animal health services can play a key role in increasing the productivity of the livestock sector. Disease-induced losses in the livestock sector represent a major constraint to productivity. Disease constraints are estimated to cause losses of up to 30 per cent of annual livestock output in developing countries, twice that estimated for developed countries (FAO, 1990). Occurrence of diseases causes heavy economic losses in terms of livestock health and production. Ever since the beginning of planning era, efforts have been made to reduce economic losses due to morbidity and mortality through strengthening the infrastructure for animal health. As a result, trans-boundary animal diseases such as foot and mouth disease (FMD) are still prevalent in India and the economic losses due to animal diseases remain significant. The value of milk and non-milk losses in India due to FMD were reported to be 17,800 million and 18,130 million, respectively (Saxena, 1994a; 1994b) while mortality losses due to peste des petits ruminants (PPR) were estimated at 169.4 million (Kumar *et al.*, 2004). Concerns have also been raised over the feasibility of subsidized service delivery as many of these subsidies, in the form of free services, do not reach the service users (Ahuja *et al.,* 2003b) and more often benefit the large and commercial farmers. All these factors have contributed to the deterioration in availability and quality of public animal healthcare services.

Animal husbandry department of Rajasthan is playing major role in providing veterinary assistance and health coverage to the livestock and poultry in the state. One of

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these important animal husbandry programmes, Mukhyamantri Pashudhan Nishulak Dava Yojana commonly known as Chief Minister Livestock Free Medicine Scheme, has been implemented in the state since 15 August, 2012, with its specific objectives of providing veterinary assistance at farmers' doorsteps, creating awareness on animal husbandry activities and poultry management in the state. In many locations apart from state veterinary services other veterinary services are also available and the veterinary service users have the choice available with them regarding the service providers.

The plethora of studies (Shweta, 2014 and Ahuja *et al.,* 2008) has indicated State Department of Animal Husbandry and Veterinary Services as the main and primary provider of veterinary services apart from other private agencies, Dairy cooperatives and Non Governmental Organizations which function at the regional level. The future growth of livestock sector will depend crucially on the availability of good quality healthcare services - both preventive and curative. In view of this, the present study was undertaken to study preference and mode of approach to animal healthcare service providers by tribal livestock owners and the disease pattern among livestock of Banswara district.

Materials and Methods

The present study has been carried out in Banswara district of Rajasthan. The district is predominantly inhabited by tribals mainly Bhils, Bhil Meenas, Damor, Charpotas, Ninamas etc. Banswara district was selected purposively on the basis of highest tribal population in the state. Out of total five tehsils in the district, Bagidora and Kushalgarh were selected purposively due to the existence of large number of tribal families. A village wise comprehensive list of number of tribal families residing in different villages prepared with help of panchayat samities, village patwari and local tribals. Four villages namely: Rangniya, Ummedgarhi, Vanellapara and Ratanpura from Bagidora tehsil and another four villages namely: Vasuni, Jari, Potaliya and Chunrada from Kushalgarh tehsil selected on the basis of highest tribal population and depends on animal husbandry for their livelihood. Thus, a total of eight villages have been selected from two identified selected tehsils of district. Total fifteen tribal families residing in selected village, owning large number of livestock were selected randomly from each village. Thus, a total of 120 tribal families were selected randomly from eight selected villages.

Quantitative and qualitative data were collected through personal observation, consultation with traditional healers, Veterinary Officers, Livestock Assistant (LSA), tribal family members having ethno knowledge and engaged with animal treatment, detailed discussion with key informants, aged persons and housewives etc. The data were compiled, tabulated and analysed using frequency, simple percentage and mean score. Mean scores for mode of approach to animal health service provider was measured by using 3 point continuum i.e. always, sometimes and never with their respective scores as 2, 1 and 0. Mean score was calculated by multiplication of the frequencies of each group with their respective scores, followed by summation and ranking.

Results and Discussion

Preference of animal health service provider

Respondents were asked to indicate their major preference to different available animal health service provider viz. by self at home, traditional healer/Vaidat village, Veterinary Officers/LSA at hospital and quacks for treatment of various animal health problems from all the two tehsils viz., Bagidora and Kushalgarh. Each respondent was asked to give the most preferred health delivery channel on the basis of availability, distance, effectiveness, credibility and cost of treatment for different problems. Table 1 clearly shows that about 46 per cent of the selected families preferred traditional healer/Vaidat village followed by Veterinary Officers/LSA (35%), quacks (12.50%) and by self at home (6.67%) for treatment of medicinal problems of their animals. Majority of the respondents (63.33%) were getting advice from Veterinary Officers/LSA for surgical affections followed by quacks (22.50%), traditional healer/Vaid (10%) and himself at home (4.17%). In case of gynaecological problems, majority (70.83%) of the respondents preferred Veterinary Officers/LSA followed by quacks (21.67%). About 40 per cent of respondents vaccinated their animals in veterinary hospital as well as in animal health camps organized by state animal husbandry department and rest of the respondents had not vaccinated their animals against diseases. Table 1 further indicates that majority of the respondents (55%) dewormed their animals on advice of Veterinary Officers/LSA followed by traditional healer/Vaid (29.17%) and quacks (15.83%). (Sakthivel *et al.*, 2012) based on the results from Namakkal district of Tamil Nadu had also reported that majority of respondents used abdominal distension (69.29%) and absence of oestrus signs (30.71%) the criteria to confirm the pregnancy by himself at home. Similar results were also found by (Yadav *et al.*, 2009) that majority (55%) of the tribals of Dungarpur district of Rajasthan were doing pregnancy diagnosis by veterinarians followed by still going to quacks (45%) and were getting treatment of their animals by veterinarians (26.25%). (Tanwar *et al.,* 2012) had also reported from Jaipur district of Rajasthan that 31.67 per cent of goat farmers got advice from veterinarian followed by depend on "Village Gunni" (a local person who treats animals with indigenous techniques) (68.33%) for treatment of sick goats, deworming of goats (44.58%), vaccinated (23%) their goats. Similar findings were reported by (Rajput, 2006) in Rajasthan.

The finding that the traditional healers were found to be first choice for treatment of medicinal cases by majority of pastoralists whereas Veterinary Officers preferred more over traditional healers for other problems like reproductive, surgical and preventive cases in Bikaner and Jaisalmer districts. Similarly in arid Rajasthan, (Rohilla *et al.*, 2004) reported that animal health camps were frequently organized in the village by NGOs, panchayat samities and government agencies to treat the animal at farmer's doorstep. In Sangli district of Maharastra state (Mirajkar e*t al.,* 2011) found that majority of large farmers preferred state veterinary services and cooperative veterinary services where it had strong presence. They further stated that cooperative veterinary service can be a good alternative to the state veterinary services and the private veterinary service providers are still not preferred in the rural

Table 1: Distribution of the respondents according to preference of animal health service provider for different health problem (N=120)

S. No.	Animal health service provider	Animal health care problems				
		Medicinal	Surgical	Gynaecological	Vaccination	Deworming
1.	By self at home	08(6.67)	05(4.17)	-	-	-
2.	Traditional healer/vaid at village	55(45.83)	12(10)	09(7.50)	-	35(29.17)
3.	Veterinary Officer/LSA in hospital	42(35)	76(63.3)	85(70.83)	48(40)	66(55)
4.	By quacks	15(12.50)	27(22.5)	26(21.67)	-	19(15.83)

Figures in parentheses indicate percentages

Table 2**:** Distribution of the respondents according to mode of approach to animal health service provider (N=120

Sr. No.	Mode of approach	Frequency of approach			Mean score	Rank
		Always	Sometimes	Never		
1.	Bringing diseased animal at animal health service centre	21(17.50)	37(30.83)	62(51.67)	0.66	III
2.	Self visit at animal health service centre	18(15)	54(45)	48(40)	0.75	II
3.	Call to veterinarian/expert for doorstep service	32(26.67)	88(73.33)	-	1.27	I

Figures in parentheses indicate percentages

Table 3**:** Type of diseases reported by respondents in their large ruminants in the last one year period preceding the survey (N=120)

Species	Diseases	No.of animals affected	No. of animals died
Cattle/ Buffalo	FMD	05	01
	B.Q.	12	04
	H.S.	11	03
	Actinomycosis	08	-
	Pneumonia	15	03
	Mastitis	12	-
	Babesiosis	07	02
	Trypanosomiasis	06	01
	Parasitic infections	25	-
	Repeat breeding	150	-
	Retained placenta	15	-
	Prolapse	20	-
	Dystocia	19	01
	Metritis	41	-
	Diarrhoea	40	06
	Tympany	18	03
	Milk fever	14	-
	Poisoning	31	01
	Maggot wound	05	-
	Fracture	08	-
	Horn cancer	05	01

area. Similar findings were reported earlier by (Yadav *et al.,* 2009). They reported that majority (52.50%) of tribals were getting advice for their sick animals by veterinarians but still quite a large percentage (18.75%) was going to quacks and 27.50 per cent of respondents were going for vaccination against the contagious diseases while, only a few (12.50%) respondents were adopting deworming of adult animals. Similarly, (Rajput, 2002) found that majority of families in Bikaner district of Rajasthan were treating their animals through traditional healers irrespective of infectious and non infectious diseases and about 32 per cent of the pastoralists visited at veterinary hospital to treat their animals against infectious

Table 4: Type of diseases reported by respondents in their small ruminants in the last one year period preceding the survey (N=120)

Species	Diseases	No. of animals affected	No. of animals died
Goat	Pox	05	
	Contagious echthyma	32	- -
	Pneumonia	20	05
	Acidosis	29	12
	Diarrhoea	80	12
	Maggot wound	10	-
	Poisoning	30	03
	Parasitic infections	55	- -
	Prolapse	04	-
	Mastitis	06	

diseases. Khandelwal (1995) found that inspite of government dispensaries; people treated their animals themselves through traditional knowledge of the medicinal properties of the floral resources around them. He further stated that ailments such as prolapse of uterus, bone fracture, stomach ache, retention of placenta, distension of abdomen, constipation, diarrhoea, indigestion, scabies, ulcers, parasites infection and cases of poisoning were cured/treated through such medicines.

Mode of approach to animal health service provider

The data in Table 2 shows the frequencies of mode of approach used by respondents to contact the animal health service provider for treatment of their diseased animals. Table reveals that only about 27 per cent of respondents reported that they were always calling veterinary expert for treatment of diseased animal at doorstep during emergency cases especially for surgical intervention and dystocia and about 18 per cent took their diseased animals at veterinary centre but 15 per cent himself visited without diseased animals. Table 2 further depicted that majority (73.33%) of the respondents were sometimes calling veterinary expert for treatment of diseased

animal at doorstep and 45 per cent of the respondents sometimes visited without diseased animals but about 31 per cent took their diseased animals at animal health service centre. Similarly, (Rajput, 2006) also found that more than 30 per cent of pastoralists were reported that they always took their diseased animals at veterinary centre and about 34 per cent him-self visit without diseased animals. Very few of them (6.66%) reported call of veterinary officers for treatment of diseased animal at doorstep. However, during emergency cases especially for surgical intervention and dystocia about 32 per cent sometime called the Veterinary Officers for treatments at home.

Disease pattern among large ruminants

Selected tribal families were interviewed to report number of their animals affected and died due to various diseases for the last one year. Table 3 indicates disease pattern among livestock found in Bagidora and Kushalgarh tehsils of Banswara district. A perusal of data in Table 3 reveals that repeat breeding, metritis, diarrhoea and poisoning were found to be more prevalent among cattle and buffalo in study area. Parasitic infections and pneumonia were found to be the serious problems among cattle in both of the tehsils. Black quarter was the major cause of high mortality in cattle and buffalo. According to (Rajput and Tripathi, 2010) repeat breeding and pica were two major problems among large ruminants and pica, pneumonia and pox were the most prevalent diseases among sheep and goats in arid zone of Rajasthan.

Disease pattern among small ruminants

Table 4 reveals that parasitic infections, pox, pneumonia, diarrhoea and acidosis were reported as major problems among goats of the study area. Diarrhoea and pneumonia were causing high mortality in goats especially among newborn kids. Deokar *et al.* (2002) found that out of 6403 Osmanabadi goats from three districts viz. Ahmednagar, Solapur and Osmanabad, 1981 (30.94%) were infected with the worm infestation followed by diarrhoea (18.01%), enterotoxaemia (17.88%), contagious ecthyma (15.82%), haemorrhagic septicemia (6.86%), foot and mouth disease (6.20%) and bronchitis (0.72%). Further, Rekhate *et al.* (2002) in his study found that thirty goats suffered with contagious ecthyma. Among them four kids died due to secondary infection at organized farm at Haryana. Sakthivel *et al.* (2012) also reported that acidosis, orf, peste de petits ruminants (PPR), maggot wound, enterotoxaemia, tetanus and goat pox were the major diseases in goats encountered by the respondents in Namakkal district of Tamil Nadu.

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