

Original Research Article

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## Healthcare Management Practices Followed by Dairy Farmers of Aravalli District of North Gujarat

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### ABSTRACT

A field survey was conducted in Aravalli district to determine the healthcare management practices followed by dairy farmers. Data were collected from randomly selected 150 dairy farmers through personal interview with the help of pretested structured schedule. It was revealed that majority of the respondents (86.66%) observed off feed as main symptom of illness followed by decrease in milk production (39.33%), uneasiness (24.00%) and dry muzzle (21.33%). It was realized that respondents preference for treatment of animals suffering from different ailments by only veterinarians (28.66%), quacks (22.00%) and both (49.33%). More than half of respondents (54.67%) adopted deworming of animals. About 88.67 per cent of the respondents vaccinated their animals against various diseases like FMD, HS and others. Majority of the respondents (85.33%) vaccinated their animals against FMD, followed by HS (51.34%) and other (01.33%) infectious diseases. Almost all of the respondents (97.33%) cleaned animal shed regularly. It was denoted that majority of respondents (66.67%) followed bathing of their animals once in month or more time followed by weekly and daily bathing of animals were 27.33 and 06.00 per cent respondents, respectively. Nearly all the respondents (98.67%) adopted colostrum feeding to calves but it was observed that the majority of the respondents (78.53%) fed colostrum to calves after expulsion of placenta. It was revealed that the majority of the respondents (65.34%) fed milk to calves up to more than three months followed by 31.33 and 03.33 per cent respondents were up to two months and up to one month, respectively.

#### Keywords

Aravalli, Health care management, Illness symptoms, Deworming, Cleaning of shed, Colostrum feeding

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### Introduction

Gujarat is holding very important position in milk production and marketing in India on co-operative dairy system basis. This credit was achieved by development of wide network of

co-operative dairy system based on Anand pattern in the state.

Total milk production of Gujarat in 2016-17 was 12.78 million tonne (per cent of total 10%) and per capita, milk availability reached

563 gram per day which is higher than the national average 337 gram per day (Anonymous, 2017). The Aravalli district was carved out in the year 2013 out from the existing Sabarkantha district with Modasa as its district headquarter. It possesses six talukas namely Modasa, Megharaj, Malpur, Bhiloda, Dhansura, Bayad. Health of animal is considered as fourth pillar of animal production and management. Adoption of scientific rearing of livestock would further important aspects to improve the quality of farmer's life (Rao *et al.*, 2013). Supervising livestock health practices followed by the farmers particularly in tribal area is crucial to identify the basic hurdles of the animal rearing system and to work out appropriate intervention like deworming, vaccination, timely treatments, cleaning of shed and bathing of animals to ensure proper health of animals that promotes their productivity. The present study was undertaken to gather information regarding existing health management practices in dairy animal husbandry and problems faced by dairy farmers from one of the tribal district of North Gujarat.

### **Materials and Methods**

Three step stratified random sampling was performed in which three talukas (out of six) namely Bayad, Modasa and Bhiloda were randomly selected. From each selected taluka 5 villages and 10 dairy animal owners from each village were randomly selected. So, in total 150 respondents from study area were surveyed, while selecting respondents due care was taken to ensure that they were evenly distributed in the village and truly represented the animal management practices prevailing in the study area. The selected dairy farmers were interviewed and the desired information was collected regarding milking and health care management practices with the help of pre-designed and pre-tested questionnaire.

### **Results and Discussion**

Healthcare practices include detection of illness, treatment of animal, deworming, vaccination, cleanliness of sheds and animals, feeding of colostrum to calves etc. These practices are essential for keeping animal healthy and productive. The related information is presented in Table 1.

Data presented in Table 1 revealed that signs of illness observed by the respondents were off feed, decrease in milk production, uneasiness and dry muzzle in their animals. Majority of the respondents (86.66%) observed off feed as main symptom of illness followed by decrease in milk production (39.33%), uneasiness (24.00%) and dry muzzle (21.33%) in study area. The present finding is supported by Patel (2014) and Joshi (2015) as they reported that majority of animal owners detected sick animals by observing the off-feed as a major symptom for illness detection in Banaskantha district.

Preference for treatment of animals suffering from different ailments was by veterinarian (28.67%) solely, whereas, 22.00 per cent of respondents preferred quacks only, for treatment. However, one half of respondents preferred both veterinarian and quacks for treatment of sick animals. This finding is in accordance with results of Kumawat and Yadav (2012) and Kumar *et al.*, (2014) as they found that lower proportion of respondents consulting veterinarian for treatment of sick animals in their study areas.

However, result is in contrast with the Tiwari *et al.*, (2009), Yadav *et al.*, (2009), Divekar *et al.*, (2016) and Sabapara (2017) as they reported that majority of respondents contact first veterinarians for treatment of their sick animals. The difference of preference might be due to variation of area and economic status of the farmers

Majority of respondents (54.67%) adopted deworming of animals (Table 1). It may be attributed to their awareness, willingness and knowledge regarding the harm caused by the parasitic load, its negative impact on milk production and slow growth rate of young animals. The findings are in accordance with the results of Patel (2004), Akila and Senthilvel (2012), Divekar *et al.*, (2016), Sahu *et al.*, (2017) and Sable *et al.*, (2018) as they reported that majority of respondents followed the deworming of their animals. Contradictory to the results, Waykar *et al.*, (2012), Kumar *et al.*, (2014) and Sabapara (2017) reported that majority of respondents did not follow deworming of their animals.

Dairy farmers in the Aravalli district were aware about the vaccination of their animals. Majority of the respondents (88.67%) have regularly vaccinated their animals against various diseases like FMD, HS and others. The result is in accordance with results of Tiwari *et al.*, (2009), Waykar *et al.*, (2012), Divekar *et al.*, (2016), Singh *et al.*, (2016), Dhaliwal and Dhillon (2017) and Sabapara (2017) whereas, the results were in contrast with the findings of Selvaraj *et al.*, (2003), Kumawat and Yadav (2012), Kumar *et al.*, (2014), Sahu *et al.*, (2017) and Sable *et al.*, (2018). Negligence in vaccination, may cost the farmers in term of incidences of diseases especially in monsoon season and reduction in the production.

The trend of vaccinating the animals against FMD (85.00%) and HS (51.33%) was more common than other disease. Vaccination against FMD was the highest in all talukas of study area. Present result is in line with the Tiwari *et al.*, (2009), Divekar *et al.*, (2016), Sabapara (2017) and Sahu *et al.*, (2017) as they reported that majority of respondents adopted regular vaccination of their animals against different diseases like FMD and HS in their respective study areas.

Hygiene maintenance of shed is an important activity for clean milk production which is the ultimate aim of farmers to get premium price and also beneficial for consumers from health point of view. So, it is mandatory to know the status of cleanliness maintained by dairy animal owners at their animal shed. Majority of the respondents (97.33%) cleaned animal shed regularly, which was verified during our visit to farmer. The results are in line with results of Saha *et al.*, (2010), Kishore *et al.*, (2013), Singh *et al.*, (2013), Joshi (2015), Sabapara *et al.*, (2015), Sabapara (2017) and Sahu *et al.*, (2017) as they reported that majority of animal owners maintained the cleanliness in their animal sheds. It is well known fact that clean sheds are prerequisite for clean milk production. Hence, further field study is needed to ascertain the quantitative relationship between cleaning of shed and clean milk production.

Majority of respondents (66.67%) follow bathing of their animals once in month or more time (Table 1), followed by weekly and daily bathing of animals by 27.33 and 06.00 per cent respondents, respectively. It was observed during study that the frequency of bathing of animals was more for buffalo owners than the cattle owners. Present results are contradictory with the findings of Waykar *et al.*, (2012) who reported that majority of buffalo owners (82.00%) wash their animals daily. However, no report is available from the study area in this regard.

Feeding of colostrum is most important for better immunity and growth of calves. It was observed from Table 1 that almost all the respondents (98.67%) had adopted colostrum feeding to calves. This finding is in line with results of Saha *et al.*, (2010), Jadav *et al.*, (2014) and Joshi (2015), whereas in contrast with the findings of Kumawat and Yadav (2012) as they marked that only 24.00 per cent of farmers usually fed colostrum to calves in Rajsamand district of Rajasthan.

**Table.1** Distribution of respondents as per different healthcare management practices

Sr. No.	Particulars	Type	Taluka wise respondents			Total Respondents	Percentage
			Bayad	Modasa	Bhiloda		
1	Illness detection method	Off feed	47	41	42	130	86.66
		Decreased production	15	27	17	59	39.33
		Dry muzzle	12	05	15	32	21.33
		Uneasiness	15	10	11	36	24.00
2	Preference of practitioner for veterinary services	Veterinarian	10	21	12	43	28.67
		Quacks	09	15	09	33	22.00
		Both	31	14	29	74	49.33
3	Deworming of animals	Yes	37	22	23	82	54.67
		No	13	28	27	68	45.33
4	Vaccination of animals	Yes	47	43	43	133	88.67
		No	03	07	07	17	11.33
5	Vaccination against different diseases to animals	HS	41	26	10	77	51.34
		FMD	44	43	41	128	85.33
		Other	00	01	01	02	01.33
6	Cleaning of sheds	Yes	46	50	50	146	97.33
		No	04	00	00	04	02.67
7	Bathing of animals	Daily	05	02	02	09	06.00
		Weekly	16	15	10	41	27.33
		Monthly or more	29	33	38	100	66.67
8	Colostrum feeding	Yes	48	50	50	148	98.67
		No	02	00	00	02	01.33
9	Time of first colostrum feeding to young one after birth	Within 1 hr of birth	13	09	09	31	20.95
		After expulsion of placenta	35	41	41	117	79.05
10	Feeding of milk to calves of different age	Up to 1 month age	01	00	04	05	03.33
		Up to 2 months age	12	16	19	47	31.33
		Up to 3 months age	37	34	27	98	65.34

Majority of the respondents (79.05%) fed colostrum to calves after expulsion of placenta, whereas only 20.95 per cent of respondents fed colostrum to calves within an hour of calving. This finding is well supported by results of Joshi (2015) as he reported that majority of respondents fed colostrum after expulsion of placenta, whereas contrary to this Raval and Chandawat (2012), Jadav *et al.*, (2014), Divekar *et al.*, (2016) and Sabapara (2018) reported that majority of respondents fed colostrum to new born calf within an hour of calving. Feeding of colostrum within an hour calving is more beneficial for health of calves as it provides antibodies which helps in protecting against neonatal infections and mortality of calves.

It was revealed from Table 1 that majority of respondents (65.34%) fed milk to calves for more than three months of age followed by 31.33 and 03.33 per cent respondents fed up to two months and up to one month of age, respectively. Present result is well supported by Sabapara (2018).

Method adopted to identify the ailing animal was at par with standard but the preference of Veterinarian for treatment of their animal was below than standard. Knowledge regarding cleaning of shed was at par with standard but bathing of animal was below than the optimum level. Similarly, the adoption of colostrum feeding was good but timing of colostrum feeding had been compromised. The knowledge level was low and awareness level regarding health care management of the dairy farmers of the region was low. Awareness regarding vaccination was at par but adoption of deworming was quite low. Many of the farmer still adopting traditional animal husbandry practices. Hence it is recommended that the Government as well as NGOs should provide extension services to the farmers of the Aravalli district. Extension

agencies should organize training camps, awareness camp and clinical camps for farmers of the region. Awareness and knowledge will further improve dairy based livelihood in the region.

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