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Health management practices adopted by sheep farmers in semi-arid region of Tamil Nadu

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Abstract

The study was carried out breeding tract of Madras Red sheep in the north eastern region of Tamil Nadu. Information on health management practices of were randomly collected through formal interviews from each block of sheep farmer. The present study revealed that majority (98%) of sheep farmers followed deworming using oral drenching of anthelmintic to control the endo-parasites at regular intervals. Almost all the farmers (90%) dewormed their flocks every six months. Sheep farmers (99%) of adopted the practice of vaccination for sheep flock and (86%) not followed practice of navel cord disinfection and ligation of lambs after birth. Majority of sheep farmers (92%) follow practice to control ecto-parasite with dipping agent. only 84% of farmers adopted the clean dry shelter for sanitary practice of sheep housing. Among sheep farmers used (66%) allopathic, (25%) local empirical knowledge and (9%) both allopathic and traditional knowledge for treatment of their sick animals in their flocks. The sheep owners (62%) were using disinfectants to clean their sheds but with varied frequency. With respect to the disposal of dead animals, majority of farmers (92%) dispose their dead animals from the flock by burying method. The present study revealed that the sheep farmers the extent of adoption of health care management practices followed quite satisfactory. Further creation of awareness in sheep farmers to pursue scientific detecting, use of disinfectant, sanitary condition and conducting post-mortem to find specific diseases need to be improved greater extent by scientific method in semi-arid region.

Keywords: Madras red sheep, health management, farmers, semi-arid region

Introduction

Madras Red sheep is a medium sized meat type breed mainly distributed in, Kancheepuram, Chengalpattu, Thiruvallur Chennai, Vellore, Thiruvannamalai and Villupuram districts of Tamil Nadu. It is well adapted to the hot and humid conditions of North-Eastern agro-climatic region of Tamil Nadu (Acharya, 1982) ^[1]. Grazing on wet areas, overfeeding, sudden change in climate and unhygienic condition of houses are the main reasons for diseases. Since sheep always rear in flock immediate attention is required to check the spread of contagious diseases. Diseases are the major source of economic loss to the sheep production. Healthcare measures are the most neglected areas of routine management practices adopted by sheep farmers. In intensive animal production system, diseases cause loss through mortality (Mathur and Dubey, 1994) ^[5]. About 15 to 20% of sheep die due to various diseases in India. The most serious health problem of sheep was internal parasites. The cost of internal parasite infection includes treatment expense, reduced animal weight gains, and even animal death. These parasites are difficult to manage because on many farms they have developed resistance to all available commercial dewormers. Practices like deworming, vaccination, sanitation measures, control of external parasites etc. have a long term influence in optimizing the productivity. Simple health care measures will dramatically improve the flock performance (Rao *et al.*, 2013) ^[10].

Materials and Methods

The study was carried out on north eastern region of Tamil Nadu covering 150 farmers in 20 villages. The mean annual maximum and minimum temperature are 35.83 °C and 22.65 °C respectively. The mean annual rainfall of Kanchipuram district is 94 mm and relative humidity ranges from 65 to 85 percent. The farmers were selected at random to collect necessary information about health management of sheep flock. Information on deworming, vaccination and method of detecting practices, disinfection, treatment, post-mortem and method of carcass disposal was collected through formal interviews from each farmer.

Statistical analysis

The data were tabulated frequency and percentage was calculated as per standard procedure. The effect of these factors on different production was analysed by unilabiate general Linear Model (GLM).

Results and Discussion

Deworming sheep flock: The present study revealed that majority (98%) of sheep farmers followed deworming using oral drenching of anthelmintic to control the endo-parasites at regular intervals. Whereas, (2%) farmers followed deworming occasionally to control endo-parasites. and Kailash and Naruka (2015) [4] observed that 90.55% of farmers adopted the practice of deworming in western Rajasthan. The similar findings were reported by Rajanna *et al.* (2013) [9] in Telangana region of Andhra Pradesh majority of sheep farmers 100% followed deworming their flock. Guruprasad *et al.* (2019) [3] reported Lambs were drenched about 80.4% and adults 72% regularly in the sheep flocks and 27% of sheep owners were irregular with this practice in Hassan district of Karnataka. Singh *et al.* (2018) [12] reported Sheep farmers in Karauli District of Eastern Rajasthan very few sheep farmers 25% practiced deworming to their animals at regular intervals and 70% farmers followed deworming occasionally to control endo-parasites.

In this study, almost all the farmers (90%) dewormed their

flocks every six months. Similarly Rao *et al.* (2013) [9] found that almost half of the sheep farmers dewormed sheep at 6 months interval in coastal zone of Andhra Pradesh. Whereas Sunkara *et al.* (2017) [13] reported that Nellore sheep were dewormed four times a year. Dry environments, such as arid rangelands, will pose less of a threat for parasite infections in sheep. Warm and humid climates are ideal for worms, and therefore animals will have more problems with internal parasites in these coastal region.

Vaccination

It was observed from this study among the shepherds in north eastern semi - arid region of Tamil Nadu the survey revealed that 99% of sheep farmers adopted the practice of vaccination for sheep flock. It was observed that the practice of vaccination was generally adopted at the time of migration of flock, before monsoon or if there was an outbreak in the nearby areas. Suresh *et al.* (2008) [14] reported Tonk District of Rajasthan, practice of vaccination of sheep was much higher than the present findings. Rajanna *et al.* (2013) [9] found 100% of farmers adopted the practice of immunization of their flock to protect their animals from infectious diseases. Naruka and Kailash (2015) [8] observed that only 36.11% of farmers adopted the practice of vaccination. Rao *et al.* (2013) [10] observed that 90% of the farmers' flocks are covered under vaccination programmer.

Table 1: Health management of sheep in the field flocks of Madras Red Sheep at Kanchipuram district

Sl. No	Category	Sub category	Percentage
1	Deworming of animals	Regular	98
		Occasional	2
		Frequency of deworming	
		Twice a year	90
		Thrice a year	8
2.	Vaccination	Four times a year	2
		Yes	99
		No	1
		Type of vaccination	
		FMD	99
3	Naval disinfection of kid after birth	Sheep pox	95
		ET	97
4.	Practice to control ecto parasites (Deticking)	Yes	14
		No	86
5	Method of Deticking	Followed	92
		Not followed	8
		Application	34
		Spraying	48
6	Sanitary condition of shelter	Dipping	14
		No Deticking	4.0
		Clean (Dry)	84
7	Treatment of sick animals	Dirty (Wet)	16
		Use of local empirical knowledge	25
		Allopathy	66
8	Use of medicine	Both	9
		Home made	14
		Doctor's prescription	86
9	Use of disinfectant	Yes	62
		No	38
		Frequency of disinfectant	
		Weekly	7
		Monthly	17
		Others	42
10	Traditional method of treatment	None	34
		Yes	25
		No	75
11	Mode of disposal of dead animals	Thrown into bushes	8

		Burying	92
12	Post mortem	Yes	6
		No	94

Figures in the parentheses are the percentages

In this study, About 99 percent of the sheep farmers vaccinated their animals against FMD, followed by 97 per cent for ET and 95 per cent for Sheep fox respectively. The above results were in parallel with the findings from the study conducted by Rao *et al.* (2008) [11]. Higher adoption rate for vaccination could be the impact of extension programmer undertaken by State Government Animal Health Department vaccinate free of cost through health camp programmer. This is suggestive of fairly high level of awareness in farmers regarding protecting their animals by vaccination. Rajanna *et al.* (2013) [9] reported the sheep owners have fair good access to the services of the government all the animals are covered under free vaccination programmed against various s diseases of economic importance.

The sheep farmers (86%) not followed practice of navel cord disinfection and ligation of lambs after birth. It was left to fall off itself naturally. The similar findings were reported by Meena and Singh (2013) [6].

Deticking of sheep flock

Ticks and lice are important ecto-parasites of small ruminants. Table1.showed majority of sheep farmers (92%) follow any practice to control ecto-parasite with dipping agent like deltamethrin. Most of the farmers followed the method of deticking by spraying (48%) followed by application (34%) and dipping (14%) of sheep. However, some farmers adopted traditional practices like smoke of neem leaves, nochi leaves and sambirani to prevent ticks, lice and mosquitoes. This practice needs attention to create awareness in sheep farmers covered under present study. Naruka and Kailash (2015) [8] observed that 34.44% of farmers adopted the practice of control of ecto parasites. Rajanna *et al.* (2013) [9]. Observed higher adoption of sheep farmers (91.84%) to control ticks. Ticks are responsible for transmission of a few protozoans, bacterial and viral infection (Miranpuri and Singh, 1978) [7].

The survey revealed that only 84% of farmers adopted the clean dry shelter for sanitary practice of sheep housing. It was also observed among sheep farmers used (66%) allopathy, (25%) local empirical knowledge and (9%) both allopathy and traditional knowledge for treatment of their sick animals in their flocks. Rajanna *et al.* (2013) [9] observed 90.28% followed allopathic treatment and 9.03% used both allopathic and traditional knowledge for sick animal in their sheep flock in Telangana region. In contrary, Singh *et al.* (2018) [12] observed that majority of farmers (55%) used local empirical knowledge in treatment their sick animals. And also reported 25% of sheep keepers preferred para-veterinarians for treatment of sick animals and only 20% of the respondents acquired the services of a qualified veterinarian for treatment of sheep in Eastern Rajasthan. The indigenous traditional knowledge for treatment of sheep was also reported by Behura *et al.* (2009) [2].

The present study 86% of sheep keepers preferred veterinarians for treatment of sick animals as they are locally available and followed doctor's prescription medicine for entire treatment. But 14% of them used homemade medicine to treat their sick animals. Swarnkar and Singh (2010) [15] and Naruka and Kailash (2015) [8] observed that 14% breeders used homemade medicines for the treatment of their animals.

Sometimes these medicines cause adverse effects and serious problems due to higher dose.

Use of Disinfectant

The use of disinfectant in the sheep sheds as a measure of hygiene was also studied in this study. The sheep owners 62% were using disinfectants like hydrated lime powder, sodium hydroxide and bleaching powder to clean their sheds but with varied frequency. About 17% practiced monthly usage, 42% used disinfectants irregularly (during certain occasions like local festival, domestic functions etc.) and only 7% of them used once in a week. The (34%) proportion of them never had the practice of using any disinfectant to clean their sheds (Table 1). Similar findings observed by Guru Prasad *et al.* (2018) [3], about 39% practiced once in a month and 38% of them not practice to use disinfectant to clean sheep shed in Hassan district of Karnataka.

With respect to the disposal of dead animals, majority of farmers 92% dispose their dead animals from the flock by burying and 8% of them either threw the carcass into open fields or unused wells and waste lands. In contrary, Rajanna *et al.* (2013) [9] observed 88.54% sheep farmers were threw dead animals in open field or unused wells while 6.08% used dead animals for consumption and 5.38% were buried the dead animals. In the present study, among sheep farmers 94% not conducting any postmortem and only 6 per cent relied on conducting post mortem of the dead carcass.

Conclusion

The present study revealed that the sheep farmers the extent of adoption of health care management practices followed by sheep farmers quite satisfactory. Use of disinfectant, sanitary condition of shed and conducting postmortem to find specific diseases need to be improved greater extent by scientific method in semi-arid region. Further, the results indicate need of extension activities for spreading new technology, institutional intervention improving the veterinary services by periodical training and conducting demonstration are essential to improve the health and productivity of this region.

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