FACTORS INFLUENCING FARMERS PREPAREDNESS TOWARDS SHEEP HEALTH CARE – AN EXPLORATORY STUDY IN ANDHRA PRADESH

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Abstract: Sheep husbandry is a low-investment sustainable enterprise yielding reasonably high rates of return. The present study was conducted in Prakasam and Nellore districts of Andhra Pradesh. A total of 180 sheep farmers were selected to identify and assess the factors influencing preparedness towards sheep health care with specific reference to vaccination. The study revealed that among various factors, extension contact, availability and accessibility of vaccines and veterinary services, affordability of vaccines and veterinary services were found positively significant towards preparedness of sheep farmers at 1% ($p < 0.01$) level. Farmers with these improved characteristics will be naturally more prepared towards sheep healthcare practices including vaccination measures.
Keywords: Factors; preparedness; sheep farmers; vaccination.

INTRODUCTION

Livestock are essential to the economic, nutritional, and social well-being of the farmers and it is one of the fastest growing agricultural subsectors in developing countries where its share to agricultural Gross Domestic Product (GDP) is 33 per cent. Livestock sector employs 1.3 billion people and supports 4 billion people worldwide (Descheemacker *et. al.* 2010) and helps farmers to achieve food security (Devendra and Chantalakhana 2002; Perry and Sones 2007). In India, livestock is the major source of income for most of the rural people after crop production and this sector has contributed one quarter of the total output in agriculture, fisheries and forestry (DAHDF & SAPPLPP, 2015).

Sheep husbandry is an important subsidiary animal husbandry activity. It involves only low cost technology. It acts as a primary source of income and provides greatest sustainable return to the sheep farmers. India ranks 3rd in sheep population, next to China and Australia and is placed at the 7th position among the top 10 countries of the world in terms of

mutton and wool production. In Andhra Pradesh total sheep population was 26.39 million (Livestock census, 2012) which constitute 40.57 per cent of Indian sheep population and ranks first in the country.

The sheep husbandry has several intractable disease issues. Regular flock health monitoring could add value to their flocks. Hence, regular flock health planning i.e. shepherds preparedness is needed. Whereas, several factors influence and contribute towards shepherds preparedness with regard to animal health care. With this background, the present study was conducted to identify and analyse the factors influencing preparedness of the sheep farmers towards sheep health care with specific reference to vaccination.

METHODOLOGY

The present study was conducted in Prakasam and Nellore districts of Andhra Pradesh, India. A total of 180 shepherds who were having at least 50 sheep were selected from 18 villages of six mandals of two districts through multistage sampling and interviewed through direct interview method. The data were collected using a pre-structured interview schedule developed for the purpose in consultation with other experts.

Multiple Linear Regression analysis:

Multiple Linear Regression analysis was applied to analyze the factors associated with preparedness of sheep farmers towards sheep health care practices with specific reference to vaccination. The independent variables were defined in terms of age (AGE), gender (GEN), socio-economic status (SES), purpose of rearing sheep (PRS), social participation (SCP), extension contact (EXC), training received (TRR), availability and accessibility of vaccines and veterinary services (AAVV), affordability of vaccines and veterinary services (AFVV) and decision making ability (DMA).

To analyze the factors associated with preparedness of sheep farmers, the following multiple linear regression model was fitted.

$$Y = \beta_0 + \beta_1\,AGE + \beta_2\,GEN + \beta_3\,SES + \beta_4\,PRS + \beta_5\,SCP + \beta_6\,EXC + \beta_7\,TRR + \beta_8\,AAVV + \beta_9\,AFVV + \beta_{10}\,DMA + \mu$$

Where,

Y = Preparedness of sheep farmers

β_0 = Constant term

β_1 to β_{10} = Regression coefficients

μ = Random disturbance term

RESULTS AND DISCUSSION

The results of the investigation and corresponding discussion has been presented as follows.

The results of multiple linear regression analysis to assess the factors associated with preparedness of sheep farmers were given in Table 1. From the results, it could be observed that among ten factors presumed to influence preparedness of sheep farmers; only three factors viz., extension contact, availability and accessibility of vaccines and veterinary services and affordability of vaccines and veterinary services were found to be significantly associated at 1% (p < 0.01) level with preparedness of sheep farmers towards sheep health care practices with specific reference to vaccination.

The 'R^2' value of 0.392 indicated that all the independent variables put together explained about 39.20 per cent of variation in the preparedness sheep farmers towards health care practices.

The partial regression coefficients presented in table 1 revealed that the independent variables viz., extension contact, availability and accessibility of vaccines and veterinary services, affordability of vaccines and veterinary services were found positively significant as evident from their significant 't' values. Though the R^2 value is less, this variation was observed to be statistically significant as the computed 'F' value (10.915) was significant at 0.01 level of probability. Thus it can be concluded that the variables selected for the study explained the variation in the preparedness towards health care practices i.e. the variables selected for the study were relevant.

The extension contact i.e. contact with formal sources like veterinary officials and informal sources like family members and progressive farmers including neighbours will make the farmers more aware and knowledgeable which predisposes to better perception of importance of sheep healthcare practices with specific reference to vaccination, more and more information seeking behaviour contributing to improved scientific orientation and thereby better risk management behaviour. Farmers with these improved characteristics will be naturally more prepared towards sheep healthcare practices including vaccination measures. Hence the character extension contact could explain much variation towards the dependant variable preparedness towards sheep health care practices with specific reference to vaccination.

The availability and accessibility of vaccines and veterinary services to farmers also makes difference with regard to preparedness and hence contributed towards significant variation.

If the farmers were with good affordability i.e. willingness to pay for the vaccines even a little bit costly, it indicates their preparedness towards sheep health care practices with specific reference to vaccination and hence showed significant variation.

Based upon Correlation coefficient (R) and Coefficient of determination (R^2), factors like, extension contact, availability and accessibility of vaccines and veterinary services, affordability of vaccines and veterinary services were responsible for preparedness towards animal health care practices with specific reference to vaccination, hence, effective strategies can be developed by Extension agencies to improve sheep farmers preparedness leading to higher livestock productivity.

CONCLUSION

Among the various factors associated with preparedness of sheep farmers revealed that extension contact, availability and accessibility of vaccines and veterinary services and affordability of vaccines and veterinary services were found to be significantly associated with preparedness of sheep farmers towards sheep health care practices with specific reference to vaccination. Farmers with these improved characteristics will be naturally more prepared towards sheep healthcare practices including vaccination measures. Hence, more attempts should be made to increase the level of extension contact, so as to improve and update their skill and knowledge for profitable production.

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Table 1: Multiple linear regression analysis of independent variables with preparedness sheep farmers towards sheep health care with specific reference to vaccination

S.No	Independent Variables	Coefficient (bi)	t - Value
1	Age	0.126	1.798
2	Gender	-1.821	-0.559
3	Social Status	-0.063	-0.187
4	Purpose of rearing sheep	0.754	1.659
5	Social participation	-0.303	-0.347
6	Extension contact	1.174	3.077**
7	Training received	-1.931	-0.697
8	Availability and accessibility	1.961	2.996**
9	Affordability	2.345	3.230**
10	Decision making ability	0.128	0.516
	F = 10.915**	R=0.626	R^2=0.392

** Significant at 0.01 level of probability;   E = Excluded variable