

PREVALENCE AND ECONOMIC SIGNIFICANCE OF HAEMONCHOSIS IN SHEEP AND GOATS SLAUGHTERED AT FAISALABAD ABATTOIR

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Prevalence of haemonchosis was 21.7 and 10.9% in slaughtered sheep and goats, respectively. The rate of infection was higher ($P < 0.01$) in male than in female sheep, whereas there was no difference in the prevalence between male and female goats. Estimated losses due to lowered meat and animal fibre production in sheep and goats were Rs. 31.42 million per year.

INTRODUCTION

Haemonchus (H.) contortus is an important blood sucking parasite of ovines and causes an insidious drain on production (Hussain and Akram, 1967). The disease caused by this parasite (Haemonchosis) is prevalent wherever sheep and goats are raised, but it exerts the greatest economic losses in temperate and tropical regions (Blood *et al.*, 1979). An overall loss of 23.8% in meat and 40% in wool production has been reported in young sheep (Hussain and Akram, 1967). This paper describes the prevalence of and economic losses due to haemonchosis in sheep and goats slaughtered at Faisalabad abattoir.

MATERIALS AND METHODS

A total of 3600 sheep and 4200 goats were examined at Faisalabad abattoir from March, 1991 to August, 1991. Abomasa of sheep and goats were examined for the presence of adult *H. contortus*. The worms were identified based on the characteristics given by Soulsby (1982). A complete record of the species and sex of the animals slaughtered and examined was kept. Economic losses were estimated by the total number of *Haemonchus* infected slaugh-

tered sheep and goats per year based on the data of prevalence recorded in the current study, considering the average price of meat as Rs. 50 kg⁻¹ and that of animal fibre as Rs. 26.4 kg⁻¹. The meat and wool losses were estimated by assuming that a year old sheep under good managerial conditions produces 25 kg meat and 2 kg of wool; likewise a year old goat produces 20 kg meat and 1.2 kg hair. Hence, the average loss of meat and wool/hair per sheep and goat was calculated as 23.8 and 40%, respectively as reported by Hussain and Akram (1967).

RESULTS

Prevalence: The prevalence of haemonchosis was 21.7 (781/3600) and 10.9% (458/4200) in sheep and goats, respectively. Sexwise prevalence was recorded as 17.1 (389/2276), 28.7 (380/1324) and 10.3 (259/2516) and 11.8% (199/1684) in males and female sheep and goats, respectively.

Economic losses: Estimation of losses was done by calculating the total number of animals infected out of those slaughtered in Faisalabad abattoir in 1991. A huge number of sheep (0.039/0.181 million) and goats (0.031/0.286 million) was found infected with *H. contortus*. The maximum losses were due to the lowered meat production fol-

Table 1. Prevalence of haemonchosis in sheep and goats slaughtered at Faisalabad abattoir

Species	Number slaughtered	Infected	Uninfected
	(million).....	
Sheep	0.181	0.039 (21.7)	0.142 (78.3)
Goats	0.286	0.031 (10.9)	0.255 (89.1)

Table 2. Sexwise prevalence of haemonchosis in sheep and goats slaughtered at Faisalabad abattoir

Species	Sex	Number slaughtered	Infected	Uninfected
		(million).....	
Sheep	Male	0.108	0.018 (17.1)	0.090 (82.9)
	Female	0.072	0.020 (28.7)	0.052 (71.3)
Goats	Male	0.158	0.017 (10.3)	0.141 (89.7)
	Female	0.129	0.015 (11.8)	0.114 (88.2)

Chi-square analysis revealed significant differences between sex ($P < 0.01$). Figures in parentheses indicate percentages.

lowed by the wool production in sheep and likewise in the goats. Total losses amounted to Rs. 31.42 million per annum. These included losses of Rs. 18.84 and Rs. 0.84 million due to reduced meat and wool production in sheep and Rs. 11.29 and 0.45 million due to reduced meat and hair production in goats, respectively (Table 3).

DISCUSSION

Prevalence of *Haemonchosis* was significantly higher ($P < 0.01$) in sheep com-

pared with goats. Sheep have usually been reported to have higher rates of infection than goats in many parts of the world (Durrani and Hayat, 1964; Riche *et al.*, 1973; Suh *et al.*, 1980). The higher incidence of *Haemonchosis* in sheep than that in goats may be attributed to a variety of factors such as the age of sheep at the time of slaughter (which is most of the time more than that of goats, close grazing habits of sheep), relatively less cleanliness and extensive pasture grazing compared with goats. The results of sexwise prevalence of *Haemonchosis*

Table 3. Economic losses due to Haemonchosis associated with lowered productivity in slaughtered sheep and goats

Species	Number infected (million)	Estimated meat loss		Estimated fibre loss		Total economic loss (Rs.)
		(kg)	(Rs.)	(kg)	(Rs.)	
Sheep	0.039	0.037	18.84	0.031	0.84	19.68
Goats	0.031	0.225	11.29	0.017	0.45	11.74
Grand total						31.42

Average prices Meat = Rs. 50 per kg.
Animal fibre = Rs. 26.4 per kg.

revealed significantly higher ($P < 0.01$) rates of infection in female sheep than that in male sheep. However, there was no difference in the prevalence between male and female goats. The higher prevalence in male sheep could be due to their extensive wandering and grazing habit compared with female sheep. Another reason in this regard may be the age of male sheep which is usually less at the time of slaughter and therefore low resistance to infection.

The losses presented here cover only one aspect i.e. productivity in terms of meat and animal fibre. The maximum loss was in sheep (Rs. 19.68 million) followed by goats (Rs. 11.74 million). These losses have been estimated from the number of sheep and goats slaughtered at Faisalabad abattoir, whereas a considerable number of animals are slaughtered in villages in routine plus the mandatory slaughter at the occasion of *Eid-ul-Azha* (a Muslim religious festival). The losses of these animals have not been included. These data may at least provide a basis to project countrywide losses due to Haemonchosis.

In conclusion, the prevalence of Haemonchosis seems high in sheep and goats probably all over the Pakistan and is of considerable economic importance. It is,

therefore, suggested that the disease should be dealt with seriously by all concerned in order to provide a good support to the national economy.

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