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Study on Helminth Parasites Present in Sheeps in Different Parts of District Anantnag with Special Reference to *Haemonchu scontortus*

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ABSTRACT

The study was designed to determine the prevalence of *Haemonchus contortus*, intestinal helminthes parasite of sheep in the different parts of District Anantnag. A total of 30 sheeps were randomly selected from farms, pastures and abattoirs, the samples were examined using a flotation technique for determination the eggs of *Haemonchus contortus*. In order to identify *Haemonchus contortus* among the different gastrointestinal strongyles present in mixed infections, a faecal culture was carried out for each farm and pasture. This study was carried between March 2018 and October 2018. Out of (30) samples examined, (23.33%) harboured *H. contortus*. Prevalence among female (26.66%) was higher than that of the males (20%), Regarding the relationship between *Haemonchus contortus* and body condition, maximum prevalence (57.14%) was recorded in animals with poor body condition, followed by those with moderate body condition (28.57%), while the lowest infestation rate (14.28%) is noted in animals with good body.

Key Words : *Haemonchu scontortus,* Sheep, Prevalence, Anantnag J&K

INTRODUCTION

The distribution of sheep is global, with high numbers, showing the ability to adapt to various climates and universal interest, it also has a social and cultural very important role in some societies. It is used to accumulate capital and put it in reserve. Helminth parasite infections of ruminants are a major problem throughout the world. These are responsible for a number of economic losses in a variety of ways as: losses through lower fertility, reduced work capacity, involuntary culling, a reduction in food intake, lower weight gains, milk and meat production, treatment costs and mortality in heavily parasitized animals (Carmichael, 1972, Akerejola *et al.*, 1979). *H. contortus* is an important, blood sucking parasite of small ruminants found in abomasum, cause major production losses world-wide and heavy burden of this blood feeding parasite causes anaemia, diarrhoea, loss of weight, oedema, recumbency, severe debility and ultimately death (Ejlertsen *et al.*, 2006; Squires *et al.*, 2011; Nabi *et al.,* 2014). *H. contortus* sucks about 0.05 mL of blood per day by ingestion or liberation from lesions (Qamar and Maqbool, 2012). Haemonchosis is widespread wherever sheep and goats are raised, but the greatest economic losses occur in temperate and tropical regions (Ijaz et al., 2008; Torres-Acosta and Hoste, 2008; Calvete *et al.,* 2014). The disease has also found in the colder climates and recently been found as far north as the Arctic Circle (Fentahun and Luke, 2012). There are many risk factors that contribute to the occurrence of haemonchosis, such as, host and environment (agro-ecological conditions, husbandry practices, deworming intervals and pasture management) (Ratanapob *et al.,* 2012). Other risk factors such as host species, sex of the animal, age, body

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condition and race/genotype (Badaso and Addis, 2015). Parasite species and the intensity of the worm population, have an effect on the development of gastrointestinal parasitic infections (Tariq *et al.,* 2008). This work investigates the prevalence of *H. contortus*of sheep raised in different regions of District Anantnag according to the risk factors as sex and body condition.

METHODOLOGY

The present study was conducted from March 2018 to October 2018 to estimate the prevalence of *H. contortus* in sheep according to some parameters as sex and body condition of host. A total of 30 sheeps were randomly selected from farms, pastures and abattoirs and examined for eggs and worms of *H. contortus,* (faecal examination). Faecal samples collected were examined by the modified McMaster technique using saturated solution of sodium chloride. The worms were collected in normal saline and identified based on the characteristics given by Soulsby (1982). The sexes and body condition were included in this study to demonstrate the role of host factors in the prevalence of Haemonchosis infection.

RESULTS AND DISCUSSION

The study area and sampling strategies have been described in a companion paper by Rinaldi *et al*. (2015). Briefly, two standardized coprological, cross-sectional surveys were conducted in 2012 and 2013 (August to October) on sheep farms (n = 361) located in pilot areas of three key European countries: Ireland (Sligo and Leitrim Counties), Switzerland (the cantons Zürich, Aargau, Thurgau and St. Gallen) and Italy (the Campania region).

Once at the laboratory of each country, the faecal samples were vacuum-packed and couriered to the central laboratory in Italy, where they were analysed using a harmonized diagnostic procedure that involved pooling samples (Rinaldi *et al.*, 2014) and use of the FLOTAC dual technique (Cringoli *et al.,* 2010; Rinaldi *et al*., 2011), with an analytic sensitivity of 6.

Of the 30 small ruminants, examined 7 (23.33%) were found infected with *Haemonchou scontortus* helminth parasite species. The prevalence of the parasite was (20%) in male sheep and (26.66%) in female sheep. It is assumed that is a determinant factor influencing prevalence of haemonchosis and females are more susceptible to parasitism due to reproductive stress and decreased immune status (Urquhart *et al.*, 1996). In fact, animals in poor condition show a high rate of infection (57.14%) followed by those with a moderate body condition (28.57%) while healthy sheep are less infected (14.28%). This difference in the infestation rate can be explained by the fact that animals in bad body condition have low immunity against parasitism.

Table 1 : The parasite collected during the present study is *Haemonchu scontortus*. The study also indicated higher prevalence in females (26.66%) as compared to males (20%) in sheep

Faecal Examination			
Sex	Examined	Infected	Prevalence
Male	15	3	20%
Female	15	4	26.66%
Total	30	7	23.33%

Table 2 : Body condition, maximum prevalence (57.14%) was recorded in animals with poor body condition, followed by those with moderate body condition (28.57%), while the lowest infestation rate (14.28%) is noted in animals with good body

Body Condition	Infected	Prevalence
Poor	4	57.14%
Moderate	2	28.57%
Healthy	1	14.28%
Total	7	100%

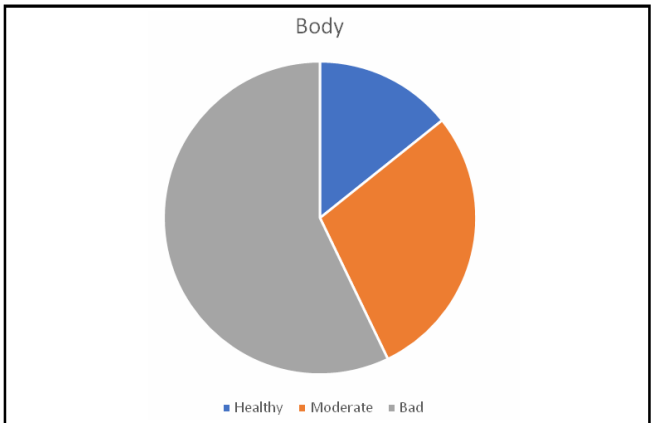

Fig. 1 : Body condition, maximum prevalence (57.14%) was recorded in animals with poor body condition, followed by those with moderate body condition (28.57%), while the lowest infestation rate (14.28%) is noted in animals with good body

The present study show that it is beyond the doubt that the sheeps of district Anantnag are infested by a large number of helminth parasites which could be

responsible for economic losses in a variety of ways, therefore efforts should be made to control helminthiasis which requires a detailed knowledge of these parasites and it is believed that the present study will provide some help to control this parasitic disease. The study also show that sex and body condition appear to be the major limiting factors for the prevalence of helminth parasites.

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