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## EPIDEMIOLOGY AND SEASONAL DYNAMICS OF GASTROINTESTINAL HELMINTH INFECTIONS OF DOMESTIC FOWL IN KASHMIR VALLEY, INDIA

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ABSTRACT: Helminthiasis continues to be a major cause of reduced productivity in the poultry industry across the world. The present study was carried out to investigate the prevalence of various helminth parasites infecting domestic fowls in the Kashmir valley. We also studied the seasonal impact and the influence of host sex on the prevalence of gastrointestinal helminth infections in domestic fowls over a period of two years in Kashmir Valley from January 2020 to December 2021. A total of 486 gastrointestinal tracts (GITs) of domestic fowls (Gallus gallus domesticus) were examined (year 1: 226, year 2: 260). Out of these, 307 (63.2%) were found infected with one or more gastrointestinal helminth parasites. The overall prevalence of GIT helminth parasites in domestic fowls in year 1 was 64.15% and 62.30% in year 2 (P > 0.05). Eight species of helminth parasites were recovered from the GITs of infected chickens, comprising three species of nematodes, four species of cestodes, and one species of trematode as follows: Heterakis gallinarum (41.76%); Ascaridia galli (33.53%); Capillaria obsignata (8.23%); Raillietina tetragona (37.65%); Raillietina cesticillus (22.42%); Raillietina echinobothrida (18.31%), Choanotaenia infundibulum (7.40%) and Echinostoma revolutum (2.67%). Among helminth species, *Heterakis gallinarum* was the most dominant parasite showing the highest prevalence. Season and sex were the factors that influenced the epidemiological prevalence of GIT helminth parasites in domestic fowl in the present study. The maximum helminth infection was observed in the summer season and lowest during the winter (P < 0.01). The prevalence of infection was relatively higher in female fowls than in males (P > 0.05). The present study will initially be of great significance to add to the existing knowledge of the epidemiology of GIT helminth infections of poultry. Moreover, the above findings will be very helpful in developing the appropriate control strategies for gastrointestinal helminthiasis of domestic fowl raised under the free-range backyard system in temperate agro-climatic conditions of the study area and other parts of the world with similar climatic conditions.

KEY WORDS: Helminth parasites, seasonal dynamics, prevalence, domestic fowl, epidemiology

In general, the poultry industry contributes significantly to the national economies of most countries and holds a key place in the supply of animal protein in the form of meat and eggs to humans (Idika et al., 2016; Wamboi et al., 2020; Shifaw et al., 2021). In most parts of the world including India, poultry production is separated into free-range and intensive management systems.