Prevalence of Gastrointestinal Parasitic Infections in Pig in and Around Jabalpur, Madhya Pradesh, India

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Abstract

The study was carried out in and around Jabalpur, Madhya Pradesh, India to determine the prevalence of gastrointestinal (GI) parasitic infections in pig. Out of 455 faecal samples examined, 290 (63.74%) were positive for different gastrointestinal parasites. *Ascaris suum* was predominant (37.14%) followed by strongyle (27.47%), coccidia (22.86%), *Schistosoma incognitum* (19.12%), *Balantidium coli* (15.60%), *Fasciolopsis buski* (15.16%), *Trichuris* sp. (5.05%), Amphistome (3.30%) and *Strongyloides* sp. (1.98%). The overall seasonal prevalence of GI parasites (78.91%) was significantly higher ($p<0.05$) in the monsoon season.

**Key words:** Pig, gastrointestinal parasites, prevalence, strongyle

India possesses 10.29 million pigs (Livestock census, 2012) accounting 2.01% of the total livestock population. Gastrointestinal parasitism in pigs affect the performance of efficient feed conversion, poor growth rate, decreased weight gain and the condemnation of affected organs after slaughter. Meat obtained from fatteners infected with helminth parasites were of a worse quality as compared to healthy fatteners and enhance the decrease in pigs breeding profitability (Knecht et al., 2011). The present study was designed to generate epidemiological data regarding gastrointestinal parasitism of pig for developing worm management strategies in Madhya Pradesh, India.

Materials and Methods

A total of 455 faecal samples of pig were collected over a period of 12 months from in and around Jabalpur, Madhya Pradesh, India. The study period was divided according to seasons i.e. monsoon (July-October), winter (November-February) and summer (March-June). Fresh samples were collected and brought to the laboratory in the Department of Veterinary Parasitology, College of Veterinary Science & A.H., Jabalpur for both qualitative and quantitative evaluation. The egg per gram (EPG) of strongyle was determined by modified Mc Master egg counting techniques (Sloss et al., 1994). Data were statistically analysed by using standard statistical method and Chi-square test (Snedecor and Cochran, 1994).

Results and Discussion

Out of 455 faecal samples of pigs were coprologically examined, 290 (63.74%) were positive for different gastrointestinal parasitic infections viz., *Ascaris suum* were predominant (37.14%) followed by strongyle (27.47%), coccidia (22.86%), *Schistosoma incognitum* (19.12%), *B. coli* (15.60%), *Fasciolopsis buski* (15.16%), *Trichuris* sp. (5.05%), Amphistome (3.30%) and *Strongyloides* sp. (1.98%). Season wise and overall prevalence of GI Parasitism is shown in Table I. Various studies had earlier reported the high prevalence rates of gastrointestinal parasites from different parts of India and abroad. Yadav and Tandon (1989) reported 68.38% infection of different GI parasites from different parts of Meghalaya. In a study from Ranchi, Jharkhand, Kumari et al. (2002) revealed infection rate of 60.62%. Overall 52.23% pigs were infected with different GI parasites in West Bengal (Dutta et al., 2005). Prevalence studies were also undertaken by Khajuria et al. (2010) in Jammu and Ebibeni et al. (2013) in Dimapur district, Nagaland.

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Ascaris suum has been found to be the most prevalent parasite. Deka et al. (2005), Tamboura et al. (2006) and Tomass et al. (2013) were also observed high prevalence of Ascaris suum and therefore, are in agreement with those observed in the present study. This could be due to the ability of the eggs to survive for a longer time in the environment infecting the animals. Contrary to our findings, Naganga et al. (2008) reported Oesophagostomum radiatum to be the most prevalent parasite of pig in Kenya. Sowemimo et al. (2012) from Nigeria reported higher prevalence rate of Trichuris sp. This may be due to the fact that the study had been undertaken in different geographical area. The highest prevalence was recorded in the monsoon season (78.91%). Yadav and Tandon (loc cit), Dutta et al. (loc cit), Kagira et al. (2012) and Laha et al. (2014) also reported a higher prevalence of gastrointestinal parasites in monsoon season. The reason for high prevalence of different parasites in monsoon season might be due to suitable macro and microclimatic condition for development, survival and dissemination of infective nematode larvae in the pasture, which leads to higher infection in pigs. The intensity of strongyle infection was shown in Fig. 1. Mean intensity of strongyle infection was highest in the month of July (503) and lowest in April (35). The contribution of agro ecology and climatic condition plays an important role for the development and survivility of infective stage of GI nematode in pasture.

The occurrence of higher prevalence of GI nematodes in this region may be due to animals were kept in small animal houses, high stocking rate in premises, muddy floored dirty house, poor management and without standard feeding along with not maintaining any deworming schedule, that provide the favourable condition for the development of more number and transmission of infective larvae. The GI parasitic infections in pigs were found throughout the study period with highest percentage of infection rate during monsoon season and were the main contributing factor for low productivity. A high level of infection with Schistosoma incognitum (19.12%), B. coli (15.60%) and Fasciolopsis buski (15.16%) is an alarming situation as the pig faeces could be an important source for parasites capable of infecting human being.

**Summary**

Overall prevalence in the present study was
63.74% having the highest incidence at monsoon season (78.91%). *Ascaris suum* was the predominant prevalent species (37.14%). Mean intensity of strongyle infection was highest in the month of July (503) and lowest in April (35).

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**References**


