Epidemiological studies on ovine gastrointestinal parasites and the associated risk factors in some mixed farms in Bahrain

**Background:** Despite of Bahrain limited landspace, livestock production represents one of the back bones of the public economy. Goats and sheep have an important contribution in human livelihoods in Asia and Africa regions (FAO, 2015). Goats and sheep population mainly owned by smallholders in mixed farm systems. Gastrointestinal parasitism is one of the main health hazards associated with economic losses, lowered productivity and performance reduction.

**Material and Methods:** A longitudinal 6 months study conducted in 7 sheep-goat farms located in the North Province of Bahrain following owners complains of emaciation, reduced productivity and losses among their herds during January – June 2017. The main objective of this investigative study was targeted for the prevalence of gastrointestinal parasites in such farms. The study conducted among 400 sheep and goats of different breeds, ages and sexes in closed and semi-closed farms. Fresh faecal and EDTA blood samples obtained directly from rectum and jugular veins respectively. A total of 73 (18.2%) samples and 41 (10.2%) blood samples collected from clinically infested animals. Also post-mortem gastrointestinal tract organs (abomasum and rumen) collected from 6 freshly dead animals. Faecal egg counts (FEC per gram faeces) determined by Flotation and Sedimentation methods. Modified McMaster chamber technique used for identification and counting nematodes, cestodes and trematodes eggs and protozoan coccidia oocysts. Moreover, faecal cultures prepared by incubating 3-5-gram faeces at room temperature (24-27 °C) for 7 -14 days to obtain infective larvae by modified Baerman apparatus technique. Blood smears from fresh EDTA blood samples for blood protozoan parasites in addition to determination of packed cell volumes (PCV) by hematocrit capillaries and centrifuging technique.

**Results:** *Haemonchus contortus* was the most dominant helminth detected, 38 samples were positive (52.1%) of which (31.4%) were mixed with other helminth species. Other parasites detected involved *Trichuris* (17%), *Moniezia* (2.1%), *Nematodirus* (1.3%) and *Eimeria* (21.9%) respectively. Faecal egg counts per gram showed most cases of *Haemonchosis* with heavy infestation over $(7-10)^3$ eggs /gram Parasitic prevalence rates estimated as percentage ratio of number of positive samples divided by total number of animals examined (d/n)%.

**Discussions and Conclusion:** Parasitic prevalence rates varied among ages where *Haemonchosis* was mostly in old ages (3-5) years (58.7)% rather than young ages, while *Eimeria* mostly detected in young ages under 6 months (71.2)%. There was no significant effect noticed on animal sexes or breeds. Farm management systems, vegetation patterns and miss-usage of anthelmintics were the main risk factors associated with parasitic prevalence in Bahrain.

**Biography**

Abdalla Fadlalla Azrug Ahmed has completed his PhD in Veterinary Helminthology at the Department of Parasitology, Faculty of Veterinary Medicine, Ankara University, Turkey in 2011. He was the Director for two regional veterinary research laboratories in West Sudan from 1999-2012. Recently, he is the Manager of the Central Veterinary Laboratory, Agriculture and Marine Resources Affairs, Manama, Bahrain, a governmental diagnostic and research laboratory in the veterinary services sector. He has published more than 15 papers in reputed journals and scientific international conference books participating in many international conferences related to the field of veterinary science and one health. He acted in the position of OIE Delegate for Kingdom of Bahrain from 2014 -2017.