Seroprevalence of Bovine Viral Diarrhea Virus infection and associated risk factors in cattle in Selangor, Malaysia

ABSTRACT

The aim of this study was to investigate Seroprevalence of Bovine Viral Diarrhea Virus (BVDV) infection in cattle in the state of Selangor, Malaysia and associated risk factors. A total of 407 blood samples were collected from five selected farms within Selangor. Sampled animals were identified for their breed, age, lactation and pregnancy status. The plasma extracted from blood samples were used for detection of antibody against BVDV using an ELISA test kit (Prio-CHECK® BVDV antibody) following the manufacturer's protocol. Results demonstrated an overall 33.2% (135/407) prevalence of BVDV antibody; with four of the farms tested positive. Prevalence in one farm reached 75.9% (66/87) which was higher than the other four farms with a prevalence of 26.0% (66/254), 13.3% (2/15), 2.8% (1/36) and 0% (0/15). Animals grouped according to breed, age, lactation and pregnancy status showed significant variation in BVDV prevalence. Higher number of adults (36.7%) than young calves (15.2%), pregnant (42.9%) than non-pregnant (31.1%) and more lactating (51.1%) than non-lactating (25.8%) cows, were affected ($p<0.05$). Friesian-Sahiwal and Jersey cattle were the most affected while the local Kedah-Kelantan cattle were the least affected. In conclusion, the study revealed immense ex-posure of cattle in Selangor to BVDV infection that varied with breed, age, lactation, and pregnancy status of the animals. As to our knowledge, this is the first report on BVDV status in cattle in Malaysia and the seroprevalence result would serve as a baseline data for further investigation on the disease.