A study on Sero Prevalence of Peste Des Petits Ruminants (PPR) in Goats of Surkhet District, Nepal

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Abstract

A cross- sectional study was carried out from October, 2019 to December, 2019 in Surkhet district of Nepal. A set of questionnaires was developed, pre-tested and then survey was carried out. A total of 184 goat blood serum samples were collected. PPRV circulating antibodies in goat serum samples were detected from c- ELISA kit. The data were collected, coded, computed and analyzed by SPSS version 20.0 and MS- EXCEL 2013. Chi- square test was used to ýnd out the association investigated risk factors and the ELISA positive and negative animals. The study showed that 59.78% (110/ 184) of goat serum samples were positive to PPR. Signiýcantly higher sero prevalence ($p<0.05$) was found in age group less than 1 year (71.6%) compare to age group more than 1 year (49%). Likewise, signiýcantly higher sero- prevalence was found in goat reared under semi- intensive husbandry practice (70.2%) as compare to intensive husbandry practice (48.9%). The risk of female goats testing positive for PPRV antibodies was found higher (61.7%) than male goat (57.8%) but not signiýcantly associated ($P> 0.05$). In addition, local breed of goats were more likely positive to PPRV antibodies (62%) as compare to improved breed (57.6%) but no signiýcant association was found between breed and test result.

Sample collection

Using 5 ml sterile syringe blood samples were collected from the jugular vein of goats. e blood samples were stored overnight at room temperature for serum separation and transferred into a sterile serum vial a er separation, the sera samples were stored at -20°C until a laboratory test was performed.

Laboratory test

e sample collected was tested by using c- 387.ed was testeISA

was no signi cant di erence in the sero- positivity of PPR according to breed ($\chi^2 = 0.362$, $p > 0.05$). e breed wise PPR status in goat is shown in (Figure 5).

Husbandry system wise sero-positivity

e husbandry system was grouped in to two- Intensive and Semi intensive. Out of 184 goat sera samples 90 sample were collected from goat reared in intensive system and 94 sample were collected from goat reared in semi-intensive system. 48.9% goat reared in intensive system and 70.2% goat reared in semi- intensive system were found positive to PPR on ELISA test. ere was signi cant di erence in the sero-positivity of PPR according to husbandry system ($\chi^2 = 8.696$, $p < 0.05$). e husbandry system wise PPR status in goat is shown in (Figure 6).

Discussion

Out of 184 goat serum sample 59.78% (110/184) were found to be positive in the PPR c-ELISA kit. Study reported a sero-positivity of PPR in goat was 82.60% [3]. Similarly, in Kassala state of Sudan out of 372 goat serum sample 40.5% were found positive to PPR by using c-ELISA kit [14]. is study is in close approximation with the result of studies done in Sudan where they have reported 61.8% [1] but it was found that relatively lower prevalence 22.3% found in Panjab Province of Pakistan [2]. Signi cantly higher sero- positivity was found in age group less than 1 year (71.6%) as compare to age group more than 1 year (49%). In contrast to this nding PPR occurrence in adults is signi cantly higher in adult (> 12 month) followed by young (4-12 months) and sucklers

Con ict of interest

e author should declare no con ict of interest.

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