PREVALENCE OF PROTECTIVE ANTIBODY TITERS AGAINST CANINE DISTEMPER, CANINE PARVOVIRUS, AND CANINE ADENOVIRUS-2 USING A POINT-OF-CARE ELISA IN ECUADOR

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Infection with canine distemper virus (CDV), canine parvovirus (CPV), and canine adenovirus-2 (CAV-2) remains a threat to dog populations worldwide. Studies have shown when dogs are vaccinated against CDV, CPV, and CAV-2 even once, they can develop long-term protective immunity, suggesting one vaccine can be valuable when it is not possible to obtain dogs for repeat vaccination. The objectives of this study were to determine the prevalence of protective antibodies against CDV, CPV, and CAV-2 in areas of mainland Ecuador that lack regular veterinary care and to identify factors associated with the presence of protective antibody titers (PAT) against CDV, CPV, and CAV-2 in these communities.

Samples were collected from dogs ≥6 months of age that presented to one of three wellness clinics and tested for PATs against CDV, CPV, and CAV-2 by a point-of-care ELISA. Dogs had insufficient antibody titers against CDV (66%; 101/154) and CAV-2 (60%; 92/154) but protective levels for CPV (95%; 146/154). Dogs were more likely to have PAT for CDV and CAV-2 if they had been to a veterinarian in the past ($p<0.0001$). Dogs that had not been to a veterinarian were just as likely to have protective immunity to CPV as dogs that had ($p=0.07$). The majority of sexually intact dogs (94%) had immunity to CPV.

Results are suggestive of inadequate vaccination against CDV, CAV-2, and CPV but previous natural exposure to CPV. Study results allow for the targeting of future veterinary services to communities most at risk for canine infectious disease outbreaks.