

## PARVOVIRUS ENTERITIS IN NIGERIAN DOGS: A SYSTEMATIC REVIEW (2009–2025) AND A SIX-YEAR RETROSPECTIVE COHORT IN THE VETERINARY TEACHING HOSPITAL, UNIVERSITY OF IBADAN

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### INTRODUCTION & AIM

Canine parvovirus (CPV) remains an endemic and fatal disease in Nigerian dogs despite vaccination efforts, with the CPV-2c variant now predominant. This study employed a dual-method approach, integrating a systematic review of Nigerian literature with a six-year retrospective analysis of 415 confirmed clinical cases. The primary aim was to identify key risk factors and robustly quantify the real-world impact of vaccination on disease outcomes. Additionally, it sought to evaluate demographic patterns, clinical severity, and survival influences across diverse dog populations.

### METHODS

A comprehensive study combining broad literature review with specific clinical case analysis to understand Canine Parvovirus (CPV).

#### The Broad Evidence: A Systematic Review

1,200 records were filtered down to 19 key studies.



Analyzed 16 years of published research for national trends.

2009 2025

The review covered peer-reviewed articles published between 2009 and 2025.

Focused on risk factors, vaccine efficacy, and clinical signs.



Data was synthesized from four major scientific databases.

#### The Real-World Data: A Clinical Cohort Study

Examined real-world cases to link vaccination with survival.



415 confirmed CPV cases were studied from 2018–2024.

All cases were from the University of Ibadan's Veterinary Teaching Hospital.

Key data collected: breed, age, vaccination status, and outcome.



Analysis used statistical tools like Chi-square and Kaplan-Meier tests.

### FUTURE WORK / REFERENCES

1. Akanbi, O. B., Fagbohun, O., Kolawole, A. R., Olaifa, O. S., Aliyu, V., Ekong, P. S., et al., 2025: Clinical signs and laboratory markers compete favorably with antigen detection of canine parvovirus-2 in dogs. *Media Kedokteran Hewan*, 36, 2, 110–122. DOI: 10.20473/mkh.v36i2.2025.110-122
2. Ogunro, B., Olonisaye, P., Obasa, A., Kpasham, L., Zakariya, M., Oyagbemi, T., et al., 2025: Predictive analysis and time series modeling of canine parvoviral enteritis: a case study from Ibadan, Nigeria. *Vet. Ital.*, 61, 3. DOI: 10.12834/VetIt.3687.32442.2

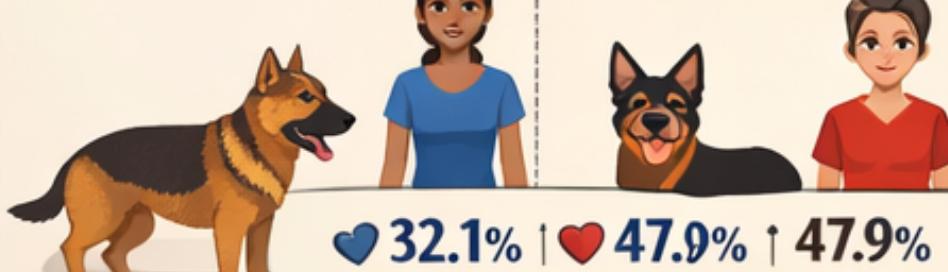
### RESULTS & DISCUSSION

6-Year Study (2018–2024) | 415 Cases Analyzed

#### 1. The Demographic Profile (N=415)

• Mean Age: 21.44 + 22.77 weeks

• 52.1% Female 47.9% Male

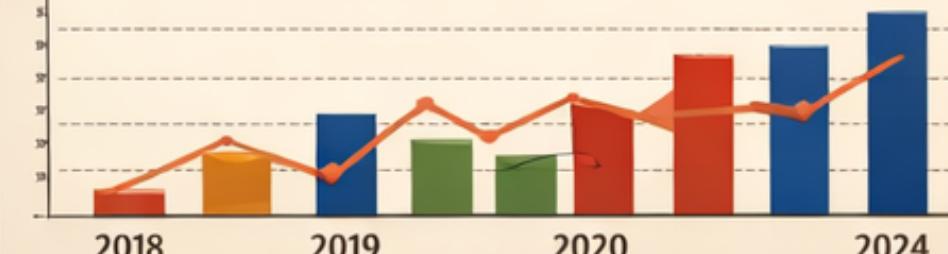


• German Shepherds 28.9%

• Boerboels 28.7%

• Rottweilers 14.5%

Cases Over Time



#### 2. Clinical & Laboratory Hallmarks

• Hemorrhagic Diarrhea 89.2%

• Vomiting 83.1%

• Lethargy 77.6%

• Dehydration 71.3%

• Thrombocytopenia 73.3%

• Neutropenia 72.4%

• Leukopenia 68.9%

#### 3. The Vaccine Advantage: Survival Data

#### 2. Clinical & Laboratory Hallmarks

• Hemorrhagic Diarrhea 89.2%

• Vomiting 83.1%

• Lethargy 77.6%

• Dehydration 71.3%

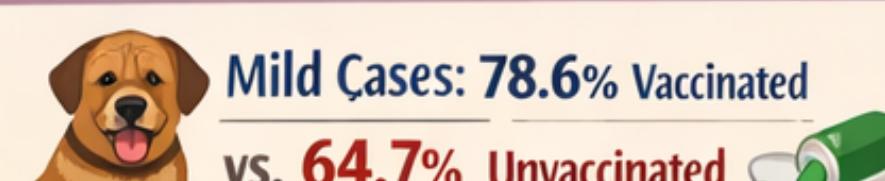
76.6% Vaccinated

49.6% Unvaccinated

32.9% Unknown Status

54% Higher Survival with Vaccination

#### 4. Resilience in Severe Cases



Mild Cases: 78.6% Vaccinated

vs. 64.7% Unvaccinated



Severe Cases: 76.0% Vaccinated

vs. 44.1% Unvaccinated

#### 5. Breed-Specific Success Stories

Boerboels: 93.3% Vaccinated

German Shepherds: 75.0% Vaccinated

Pitbulls: Significant Survival Benefit

#### 6. Key Takeaways for Prevention

• Maternally Derived Antibodies (MDA)

• Early Vaccination Neutralized by MDA

• Logistics Issues

• Cold Chain Breakdowns

• Incomplete Vaccine Schedules

Complete Immunizations & Timely Diagnosis Are Crucial

### CONCLUSION

## VACCINATION SAVES LIVES

- Vaccinated dogs have a 76.6% survival rate, while unvaccinated dogs only survive 49.6% of the time.
- Even in severe cases, vaccinated dogs show a 76.0% survival rate versus just 44.1% for unvaccinated dogs.
- Puppies under 6 months old and large purebreds like Boerboels are at the highest risk but benefit greatly from vaccination.
- To end CPV, we must standardize vaccine protocols, enhance emergency care, and educate at-risk dog owners.

ACT NOW TO END CPV!