ABSTRACT

Epidemiological Distribution of Human Rabies Exposure and Confirmed Animal Rabies Cases in East Kalimantan, 2021-2025

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Background : Linking human exposure surveillance with laboratory-confirmed animal rabies surveillance underpins One Health.

Objective : To characterize temporal, geographic, and demographic patterns in East Kalimantan, Indonesia, during 2021–2025.

Research Methods/ Implementation Methods : This retrospective descriptive ecological study examined annual district/city bite/exposure reports (GHPR) and fluorescent antibody test (FAT)-positive animal records. Counts and proportions were calculated separately. Post-exposure prophylaxis (PEP), including vaccine (VAR) and serum (SAR) records, covered 2023–2025; corresponding 2021–2022 fields were unavailable.

Results : Ten districts/cities reported 13,625 exposures, rising from 973 in 2021 to 4,772 in 2025 (+390.4%). Balikpapan and Samarinda recorded 3,675 and 2,625, respectively. Reports comprised 6,970 males and 6,655 females; 4,572 involved ages 20–45. Six districts/cities recorded thirteen FAT-positive animals: seven dogs and six cats. Annual counts were 1, 1, 4, 3, and 4. For 2023–2025, first-column VAR I entries were 2,869, 3,352, and 4,221 (93.2%, 96.5%, and 88.5% of annual GHPR); second-column entries were 2,869, 3,316, and 4,202. VAR II entries were 2,321, 2,188, and 2,671; VAR III entries were 1,314, 833, and 619. These represent treatment records, not verified vaccination completion.

Conclusion/Lesson Learned : Reported human exposures increased substantially, while rabies was confirmed in sampled animals across locations and species. Findings support coordinated bite surveillance, prompt post-exposure assessment, animal vaccination, and transparent human–animal surveillance integration. Transmission probabilities, animal test positivity rates, and causal effects of control measures cannot be determined. PEP documentation complements surveillance, but denominators and inconsistent dose labels require clarification before assessing vaccine uptake or adherence.

Keyword : rabies, One Health, animal bites, epidemiological surveillance, fluorescent antibody test, East Kalimantan, Indonesia, post-exposure prophylaxis, anti-rabies vaccine