

INTISARI

A SEROLOGICAL EVALUATION OF JAPANESE ENCEPHALITIS TRANSMISSION TOWARDS HUMANS AND DOGS (*Canis familiaris*) OUTBREAKS DURING AND AFTER THE MONSOON SEASON, IN THE SUB-DISTRICT SIBETAN KARANGASEM BALI.

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Menggunakan pemeriksaan serologi, penelitian ini mengidentifikasi penularan Japanese encephalitis (JE) pada manusia dan anjing selama dan setelah musim hujan di Sibetan Karangasem Bali, Indonesia. Nyamuk *Culex tritaeniorhynchus* adalah vektor utama virus JE. Studi ini mempertimbangkan variabel iklim yang mempengaruhi distribusi dan aktivitas vektor nyamuk, seperti musim hujan. Uji ELISA digunakan untuk diagnosis dalam penelitian ini. Sebanyak 30 pasang sampel diambil secara acak dari pemilik dan anjing peliharaannya. Desa Sibetan dipilih sebagai tempat yang optimal untuk mengumpulkan sampel karena melimpahnya populasi anjing dan sawah terasering yang menjadi habitat bagi burung rawa, nyamuk, dan peternakan babi. Hasil menunjukkan bahwa anjing mungkin lebih rentan terhadap JE selama awal musim hujan, dan mereka bahkan dapat bertindak sebagai sinyal peringatan dini wabah, menurut tiga sampel anjing positif dan semua sampel manusia negatif yang diperoleh selama ini. Tiga sampel manusia positif yang diperoleh pada awal musim kemarau memberikan bukti tambahan bahwa telah terjadi wabah. Temuan ini menyatakan bahwa infeksi JE pada manusia terjadi setelah musim hujan.

Kata Kunci: *Japanese encephalitis*, pemeriksaan serologis, musim hujan, dinamika penularan, anjing sebagai sinyal peringatan dini.

ABSTRACT

A SEROLOGICAL EVALUATION OF JAPANESE ENCEPHALITIS TRANSMISSION TOWARDS HUMANS AND DOGS (*Canis familiaris*) OUTBREAKS DURING AND AFTER THE MONSOON SEASON, IN THE SUB-DISTRICT SIBETAN KARANGASEM BALI.

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Using a serological examination, this study assesses the transmission of Japanese encephalitis (JE) in humans and dogs during and after the monsoon season in Sibetan Karangasem Bali, Indonesia. Mosquitoes, particularly *Culex tritaeniorhynchus*, are the primary vectors of the viral illness JE. The study considers climate variables that affect the distribution and activity of mosquito vectors, such as the monsoon season. ELISA is utilized for diagnosis for this research. A total of 30 sample pairs are taken randomly from owners and their pet dogs. Sibetan serves as an optimal place to collect samples for it is abundance of pig farms, rice terraces which home wading birds and mosquitoes, and dog population. The results showed that dogs may be more susceptible to JE during the start of the monsoon season, and they may even be able to act as early warning signals of an outbreak, according to three positive dog samples and all negative human samples obtained during this time. The three positive human samples that were obtained at the beginning of the dry season provide additional proof that an outbreak has taken place. The findings also imply that JE infections in humans occur after the monsoon season.

Keywords: Japanese encephalitis, serological examination, monsoon season, transmission dynamic, dogs as early warning signals.