

## ABSTRAK

**Latar belakang :** Kecamatan Sangatta Utara merupakan daerah endemis demam berdarah dengue (DBD). Kejadian kasus DBD paling tinggi di Kabupaten Kutai Timur. Penanggulangan vektor dengan melakukan fogging, abatisasi dilaksanakan oleh Dinas Kesehatan, namun belum efektif untuk menurunkan populasi vektor sehingga kasus DBD masih persisten terjadi.

**Tujuan :** Mengetahui status entomologi vektor nyamuk *Ae.aegypti* dan sebaran kasus DBD tahun 2014 secara analisis spasial di Kecamatan Sangatta Utara)

**Metode :** Penelitian bersifat *Observational Analytical* dengan pendekatan *cross sectional* menggunakan *Geographic Information Systems (GIS)* untuk memperoleh interpretasi visual tentang pola sebaran kejadian DBD dan pengamatan status entomologi vektornya (*Aedes aegypti*) di Sangatta Utara.

**Hasil :** Pola sebaran kasus DBD cenderung berkumpul (*clustering*) di daerah kepadatan penduduk yang tinggi, *ClusterMost Likely Cluster* nilai  $p = 0,03$ . Jarak antara kasus persentase yang paling besar adalah jarak 101-200 meter. Hasil survei angka kepadatan jentik di Kelurahan Teluk Lingga menunjukkan HI sebesar 21,33%, CI 7,1%, BI 41 sedangkan di Desa Sangatta Utara HI sebesar 39,83%, 10,31%, BI 54,2. Tidak ada hubungan yang signifikan antara angka ABJ dengan kejadian DBD di Kelurahan Teluk Lingga nilai  $P = 0,175$  dan ada hubungan yang signifikan antara angka ABJ dengan kejadian DBD di Desa Sangatta Utara nilai  $P$  value = 0,009. Hasil uji hayati larva *Ae.aegypti* asal Kelurahan Teluk Lingga menggunakan temephos 0,02 ppm menunjukkan mortalitas larva sebesar 94%, sedangkan larva asal Desa Sangatta Utara sebesar 97%. Hasil uji kerentanan nyamuk *Ae.aegypti* asal Kelurahan Teluk Lingga terhadap malation 0,8% menunjukkan mortalitas sebesar 3% sedangkan *Ae.aegypti* asal Desa Sangatta Utara sebesar 48 %. Indeks Transmisi Transovarial nyamuk *Ae.aegypti* asal Desa Teluk Lingga sebesar 15%, sedangkan dari Desa Sangatta Utara sebesar 25 %.

**Kesimpulan :** Sebaran kasus DBD cenderung berkumpul (*clustering*) di daerah yang tingkat kepadatan penduduk tinggi. Jarak antar kasus persentase terbesar pada 101-200 meter. Hasil survei kepadatan jentik menunjukkan Kecamatan Sangatta Utara secara keseluruhan potensial terjadi ancaman penularan DBD melalui vektor. Tidak ada hubungan yang signifikan antara angka ABJ dengan kejadian DBD di Kelurahan Teluk Lingga dan ada hubungan yang signifikan antara angka ABJ dengan kejadian DBD di Desa Sangatta Utara. Larvasida Temefos di Kecamatan Sangatta Utara kategori toleran. Insektisida Malation sudah resisten. Kecamatan Sangatta Utara sudah terjadi penularan virus dengue secara *Transovarial*

**Kata Kunci :** DBD, Analisis Spasial, Status Entomologi

## ABSTRACT

**Background:** District of North Sangatta was endemic areas of dengue hemorrhagic fever (DHF). The highest incidence of dengue cases in East Kutai. Countermeasures vector by performing fogging, abatisation implemented by Department of Health, but has not been effective to reduce vector populations that are still persistent cases of dengue fever occur.

**Objective:** To determine the status of entomology vector *Ae.aegypti* and distribution of dengue cases in 2014 were spatially in the District of North Sangatta

**Methods:** The research was a analytical observational with cross sectional study design approach using Geographic Information Systems (GIS) to obtain a visual interpretation of the distribution pattern of dengue incidence and observation status entomology vector (*Aedes aegypti*) in North Sangatta.

**Results:** The distribution pattern of dengue cases tend to converge (*clustering*) in the area were high level density population. Cluster Most Likely Cluster value of  $p = 0.03$ . The distance between the greatest percentage of cases were within 101-200 meters. Survey Results Figures density of larvae in Teluk Lingga village shows HI of 21.33%, CI 7.1%, BI 41, while North Sangatta Village as much as HI of 39.83%, 10.31 %, 54.2 BI. There was no significant relationship between ABJ figures with incidence of dengue in the Teluk Lingga village  $P = 0.175$  and no significant relationship between ABJ figures with incidence of dengue in the village of North Sangatta  $P \text{ value} = 0.009$ . Bioassay results temefos 0,02 ppm to larvae from Teluk Lingga village shown as much as 94% number of mortality, while North Sangatta Village as much as 97%. Susceptibility test results by malation 0.8% to *Ae.aegypti* mosquito from Teluk Lingga number of mortality *Ae.aegypti* as such as 3% while North Sangatta village as much as 48%. Transovarial Transmission Index results *Ae. aegypti* from Teluk Lingga village as much as 15%, while from North Sangatta village as much as 25%.

**Conclusion :** The distribution pattern of dengue cases tend to converge (*clustering*) in the area were high level density population. The distance between the largest percentage of cases at 101-200 meters. The survey results of larvae density figure shown District of North Sangatta overall potential dengue transmission occurs threats through vektor. There was no significant relationship between ABJ figures with incidence of dengue in the Teluk Lingga village and there was a significant relationship between ABJ figures with incidence of dengue in the village of North Sangatta. Larvicides Temefos in SubDistrict of North Sangatta was tolerant category. Insecticide malathion was resistant. Subdistrict North Sangatta dengue virus transmission has occurred Transovarial.

Keywords: Dengue, Spatial Analysis, Entomology Status