

INTISARI

Latar Belakang: Kejadian infeksi *Ascaris lumbricoides* paling tinggi karena faktor iklim tropis, kelangkaan sumber air minum, sanitasi yang rendah, dan praktek kebersihan kurang. Prevalensi infeksi *A. lumbricoides* paling tinggi pada anak-anak dibawah umur 5 tahun. Provinsi Papua termasuk Kab. Mimika memiliki kesehatan lingkungan rendah, seperti pembuangan akhir tinja sembarangan dan akses sumber air minum yang bersih rendah. Kab. Mimika terdiri dari dataran rendah dan tinggi, memiliki berbagai macam jenis tanah, sungai, dan tutupan lahan. Kondisi kesehatan lingkungan dan geografis tersebut berpeluang dalam transmisi infeksi *A. lumbricoides* di Kab. Mimika. Pendekatan SIG dapat digunakan untuk melihat distribusi infeksi *A. lumbricoides* berdasarkan karakter geografis sehingga dapat diperoleh informasi baru tentang pemetaan infeksi *A. lumbricoides*. Peningkatan deteksi infeksi *A. lumbricoides* penting untuk pemeriksaan infeksi *A. lumbricoides* yang belum terdeteksi dengan metode mikroskopis.

Tujuan: Menganalisis distribusi spasial kejadian infeksi *A. lumbricoides* dari empat distrik di Kab. Mimika, Papua.

Metode: Penelitian ini merupakan penelitian deskriptif analitik dengan rancangan penelitian cross sectional. Data yang digunakan adalah data sekunder Survei Rumah Tangga di Kab. Mimika tahun 2013. Lokasi penelitian di 19 desa dari empat distrik terbesar di Kab. Mimika ditentukan melalui *cluster random sampling*. Subjek penelitian yaitu semua anak umur < 5 tahun. Total sampel penelitian ditentukan berdasarkan total *sampling* sebesar 215. Variabel penelitian ini meliputi variabel terikat: kejadian infeksi *A. lumbricoides*, variabel bebas: wilayah, topografi / ketinggian, jenis tanah, DAS, dan tutupan lahan, variabel luar: umur, jenis kelamin, etnis dan status ekonomi.

Hasil: Kejadian infeksi *A. lumbricoides* pada balita di Kab. Mimika sebesar 20,5%. Proporsi kejadian infeksi *A. lumbricoides* tertinggi terdapat di dataran rendah dan DAS Kamura sebesar 20,5%, tanah glei 40%, hutan lahan kering sekunder sebesar 44,4%, dan Desa Pigapu sebesar 44,4%. Proporsi infeksi *A. lumbricoides* pada anak umur 1-<5 tahun tertinggi sebesar 23,4%. Faktor risiko infeksi *A. lumbricoides* pada anak umur 1-<5 tahun 3,7 kali lebih besar dibandingkan pada anak umur <1 tahun (OR=95% IK).

Kesimpulan: Kejadian infeksi *A. lumbricoides* sebesar 20,5% melalui pemeriksaan RT-PCR lebih rendah dibandingkan dengan metode mikroskopis. Distribusi spasial kejadian infeksi *A. lumbricoides* tertinggi di Desa Pigapu dan mengelompok di dataran rendah, di DAS Kamura, di tanah glei, dan di tutupan lahan hutan lahan kering sekunder. Terdapat hubungan ketinggian, DAS, jenis tanah, tutupan lahan dan umur terhadap kejadian infeksi *A. lumbricoides*.

Kata Kunci: Analisis spasial, *Ascaris lumbricoides*, balita, dan Kabupaten Mimika

ABSTRACT

Background: The occurrence of *Ascaris lumbricoides* infection is highest due to tropical climate factors, scarcity of drinking water sources, low sanitation, and poor hygiene practices. The prevalence of *A. lumbricoides* infection is highest in children under 5 years of age. Papua Province including Mimika Regency has low environmental health, such as the open disposal of feces and low access to clean drinking water sources. Mimika Regency consists of low and high plains, has various types of land, rivers and land cover. These environmental and geographical health conditions have the potential to transmit *A. lumbricoides* infection in Mimika Regency. The GIS approach can be used to look at the distribution of *A. lumbricoides* infections based on the geographical character so that new information about mapping *A. lumbricoides* infections can be obtained. Increased detection of *A. lumbricoides* infection is important for examination of *A. lumbricoides* infections that have not been detected by microscopic methods.

Objective: To analyze the spatial distribution of the of *A. lumbricoides* infection from four district in Mimika Regency, Papua

Methods: This was a descriptive analytic study with a cross-sectional design, using secondary data from the 2013 Household Survey in Mimika District. The research subjects were for all children aged less than 5 years. Research locations in 19 villages in the four largest districts in Mimika Regency were determined through cluster random sampling. Sampling was determined using a total sampling to 215. The variables of this study included the dependent variable which was the occurrence of *A. lumbricoides* infection, the independent variables which were topography or altitude, soil type, watershed, and land cover, extraneous variables which were age, gender, ethnicity, and economic status

Results: The occurrence of *A. lumbricoides* infection in children aged less than 5 years in Mimika Regency was 20.5%. The highest proportions of *A. lumbricoides* infections were found in the lowlands and Kamura watershed was present in 20.5%; glei land, 40%; secondary dryland forests, 44.4% and Pigapu Village, 44.4%. The highest proportion of *A. lumbricoides* infection in children aged 1- <5 years was 23.4%. Risk factors for infection of *A. lumbricoides* in children aged 1- <5 years 3.7 times greater than in children aged <1 year (OR = 95% CI).

Conclusion: The occurrence of *A. lumbricoides* infection in Mimika Regency was present in 20.5% through RT-PCR examination was lower than microscopic methods. The spatial distribution of *A. lumbricoides* infection was highest in Pigapu Village and clustered in the lowlands, in the Kamura watershed, in the glei land, and in secondary dryland forest land cover. There was a relationship between height, watershed, soil type, land cover and age to the occurrence of *A. lumbricoides* infection.

Keywords: Spatial analysis, *Ascaris lumbricoides*, children under 5 years old, and Mimika Regency