

INTISARI

Latar Belakang: Koinfeksi pneumonia dan diare sering terjadi pada anak dengan malaria, terutama di negara berkembang, namun prevalensi dan implikasi klinisnya belum diketahui.

Tujuan: Untuk mengetahui apakah koinfeksi pneumonia dan diare meningkatkan risiko kematian pada anak balita dengan infeksi malaria.

Metode: Penelitian retrospektif dilakukan di RS Mitra Masyarakat Timika Papua, Indonesia pada anak balita yang terdiagnosis malaria sejak April 2004 hingga Desember 2013. Dilakukan penelusuran data rekam medis untuk memperoleh data demografi, status gizi, laboratorium, dan luaran pasien. Malaria ditegakkan apabila ditemukan Plasmodium pada apusan darah tebal dan tipis. Pneumonia didiagnosis berdasarkan kriteria WHO, yaitu demam disertai napas cepas dan/atau retraksi dada. Diare didiagnosis berdasarkan gejala klinis, yaitu frekuensi defekasi ≥ 3 kali/hari disertai perubahan konsistensi feses.

Hasil: Selama rentang waktu penelitian, terdapat 47.470 kasus malaria, yang terdiri atas 50,5% (23.995 kasus) malaria vivax, 35,1% (16.679 kasus) malaria falsiparum, dan 14,4% (6796 kasus) *mixed infection*. Proporsi koinfeksi pneumonia dan/atau diare adalah sebesar 7,2% (3456/47.470), dimana pada pasien malaria yang dirawat inap, koinfeksi lebih sering terjadi pada malaria vivax (37,5%, $p < 0,001$). Koinfeksi meningkatkan risiko kematian sebesar 8,57 kali lipat pada anak dengan malaria (1.6% vs 0.2%, $p < 0,001$). Faktor risiko kematian pada anak balita dengan koinfeksi malaria adalah suku Non Papua (AOR 4,09 [IK 95% 1,18-14,24]; $p = 0,027$), malnutrisi (AOR 6,97 [IK 95% 3,35-13,67]; $p < 0,001$), anemia berat (AOR 3,82 [IK 95% 1,83-7,98]; $p < 0,001$), leukopenia (AOR 3,60 [IK 95% 1,69-7,65]; $p = 0,001$), dan leukositosis (AOR 2,40 [IK 95% 1,10-5,24]; $p = 0,028$).

Kesimpulan: Koinfeksi pneumonia dan diare meningkatkan risiko mortalitas pada balita dengan malaria. Suku non Papua, malnutrisi, anemia berat, leukopenia, dan leukositosis adalah faktor prediktor kematian pada balita dengan malaria yang mengalami koinfeksi.

Keyword: malaria, anak, koinfeksi, komorbiditas, mortalitas

ABSTRACT

Background: Coinfection of pneumonia and diarrhea is common in children with malaria, especially in developing countries, but data on prevalence and clinical importance are limited.

Objective: To determine whether coinfection of pneumonia and diarrhea increase the risk of mortality in children with malaria.

Methods: We conducted a retrospective study of all children under 5 years old diagnosed with malaria in Mitra Masyarakat Hospital, Timika, Papua, Indonesia, between April 2004 and December 2013. We reviewed medical records and extracted data on demography, nutritional status, laboratory, and outcome of patients. Diagnosis of malaria was established based on a thick blood film examination, with confirmatory thin blood films. Pneumonia was diagnosed based on WHO criteria: fever with fast breathing and/or chest indrawing. Diarrhea was diagnosed as the passage of three or more loose or liquid stools per day.

Result: A total of 47,470 malaria cases were diagnosed during the study period. Of those, 50.5% (23,995) had vivax malaria, 35.1% (16,679) had falciparum malaria, and 14.4% (6796) had mixed infection. The proportion of pneumonia and/or diarrhea coinfection in children with malaria was 7.2% (3456/47,470). In inpatient cases, coinfection was more common in *P.vivax* infection (37.5%, $p<0,001$). The presence of coinfection was associated with 8.57 fold increase in mortality (1.6% vs 0.2%, $p<0.001$). Among coinfecting children, factors associated with mortality were Non Papua ethnicity (AOR 4.09 [95%CI 1.18-14.24], $p=0.027$), malnutrition (AOR 6.97 [95%CI 3.35-13.67] $p<0.001$), severe anemia (AOR 3.82 [95%CI 1.83-7.98] $p<0.001$), leukopenia (AOR 3.60 [95%CI 1.69-7.65] $p=0.001$), and leukocytosis (AOR 2.40 [95%CI 1.10-5.24] $p=0.028$).

Conclusion: Pneumonia and diarrhea coinfection increased the risk of mortality in children with malaria. Non Papua ethnicity, malnutrition, severe anemia, leukopenia, and leukocytosis were factors associated with mortality among coinfecting children.

Kata kunci: malaria, children, coinfection, comorbidity, mortality