

Determinan Sintak Rawat Inap Pasien Pneumonia di RS Cipto Mangunkusumo Pada Masa Pandemi COVID-19

Habib, Hadiki

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Abstrak

Rawat inap dan kematian di rumah sakit karena pneumonia meningkat pada saat pandemi COVID-19, baik karena COVID-19 maupun patogen lain dan perlu diidentifikasi faktor-faktor risikonya. Penelitian ini dilakukan untuk menganalisis secara bersamaan hubungan berbagai determinan biologi, gaya hidup, lingkungan dan pelayanan kesehatan terhadap sintak rawat inap pasien pneumonia pada masa pandemi COVID-19. Penelitian ini menggunakan disain campuran. Pertama, dilakukan studi kuantitatif kohort retrospektif menggunakan analisis regresi cox, analisis interaksi dilakukan dengan metode stratifikasi dan multiplikasi. Data subjek penelitian diambil secara sampling acak sederhana dari rekam medis pasien pneumonia yang dirawat pada masa pandemi COVID-19 Mei 2020-Desember 2021 di RS dr. Cipto Mangunkusumo, Jakarta. Kedua, dilakukan studi kualitatif sequential explanatory dengan disain studi kasus. Informasi dikumpulkan melalui wawancara mendalam bersama enam orang informan untuk menjelaskan dinamika determinan kesehatan dengan sintak rawat inap dari perspektif ketahanan rumah sakit. Terdapat 1945 subjek pneumonia, insiden kematian saat rawat inap 34,1%. Determinan biologi yang berhubungan dengan peningkatan risiko kematian adalah kondisi awal pneumonia berat (HR 1,8;IK95% 1,38-2,43), skor CCI ≥ 2 (HR 1,5;IK95% 1,16-2,08). komplikasi ≥ 2 (HR 5,9; 95%IK 2,9-11,9), tren kematian rawat inap meningkat seiring dengan bertambahnya usia. Risiko kematian lebih rendah ada pada subjek dengan infeksi utama organ selain paru (HR 0,4;IK95% 0,35-0,51). Determinan pelayanan kesehatan yang berhubungan dengan peningkatan risiko kematian adalah intubasi (HR 1,6;IK95% 1,27-2,05) dan lama tunggu di IGD ≥ 8 jam (HR 1,4;IK95% 1,12-1,63), risiko kematian lebih rendah ada pada subjek yang mendapat perawatan intensif (HR 0,3;IK95% 0,25-0,41), terapi antikoagulan (HR 0,3;IK95% 0,27-0,44) dan terapi steroid pada pneumonia non-COVID-19 kondisi berat (0,7;IK95% 0,5-0,9). Pada subjek pneumonia COVID-19, risiko kematian selama rawat inap lebih rendah jika mendapatkan antibiotik empiris (HR 0,4;IK95% 0,26-0,58), terapi antikoagulan (HR 0,3;IK95% 0,23-0,4), dan terapi antivirus (HR 0,4;IK95% 0,3-0,5). Steroid (HR 0,4;IK95% 0,3-0,6), terapi plasma konvalesens (HR 0,2;IK95% 0,08-0,57), dan terapi anti interleukin-6 (HR 0,7; IK95% 0,46-1,03) menurunkan risiko kematian rawat inap pada pneumonia COVID-19 berat. Ketangguhan rumah sakit terjaga dengan adanya kebijakan zonasi, penerapan prinsip mitigasi risiko, dan modulasi layanan sesuai azas proporsionalitas, jejaring rumah sakit membantu mengurangi beban finansial melalui pemberian donasi atau hibah. Kerentanan rumah sakit antara lain kerapuhan infrastruktur, kecepatan kembali ke layanan reguler lebih lambat, rasa takut tenaga kesehatan dan triase pra-rumah sakit belum berjalan. Tidak terdapat interaksi antara variabel etiologi pneumonia dengan fase lonjakan kasus, dan tidak terdapat interaksi antara variabel etiologi pneumonia dengan lama tunggu di IGD. Determinan biologi, lingkungan dan pelayanan kesehatan berhubungan dengan sintak rawat inap pasien pneumonia pada masa pandemi COVID-19. Ketahanan rumah sakit perlu dinilai dengan melihat dampak pandemi terhadap kematian pneumonia COVID-19 maupun pneumonia non-COVID-19. Pengelolaan lonjakan kasus akibat pandemi COVID-19 perlu

mempertimbangkan prinsip zonasi, modulasi layanan yang proporsional, kesiapan psikologis tenaga kesehatan, kondisi finansial rumah sakit, dan kesiapan infrastruktur. Triase pra-rumah sakit merupakan faktor eksternal yang membantu meningkatkan ketahanan rumah sakit.

Hospital admissions and mortality due to pneumonia increased during the COVID-19 pandemic, both due to COVID-19 and other pathogens. Thus, risk factors need to be identified. The research was conducted to simultaneously analyze the relationship between various biological, lifestyle, environmental and health service determinants on the survival rate of pneumonia patients during the COVID-19 pandemic. This research uses mixed methods design. First, a quantitative retrospective cohort study was performed using cox regression analysis, interaction analysis was carried out using stratification and multiplication methods. Simple random sampling was done from medical records list of pneumonia patients who were treated during the COVID-19 pandemic in May 2020-December 2021 at Dr. Cipto Mangunkusumo Hospital, Jakarta. Second, a sequential explanatory qualitative study was performed with a case study design. Information was collected through in-depth interviews of six informants to explain the dynamics of health determinants and inpatient survival from a hospital resilience perspective. There were 1945 subjects, the incidence of mortality during hospitalization was 34.1%. Biological determinants associated with an increased risk of mortality were initial conditions of severe pneumonia (HR 1,8; CI95% 1,38-2,43), CCI score ≥ 2 (HR 1,5; CI95% 1,16-2,08), complications ≥ 2 (HR 5,9; 95%CI 2,9-11,9), the trend of inpatient mortality increases with increasing age. The risk of death was lower in subjects with primary infection of organs other than the lungs (HR 0,4; 95% CI 0,35-0,51). Determinants of health care that are associated with an increased risk of death are intubation (HR 1,6; 95% CI 1,27-2,05) and waiting time in the ER ≥ 8 hours (HR 1,4; 95% CI 1,12-1,63), mortality risk was lower in subjects who received intensive care (HR 0,3; 95%CI 0,25-0,41), anticoagulant therapy (HR 0,3; 95%CI 0,27-0,44) and steroid therapy in severe non-COVID-19 pneumonia (0,7; 95%CI 0,5-0,9). In COVID-19 pneumonia subjects, the risk of death during hospitalization was lower if they received empiric antibiotics (HR 0,4; 95%CI 0,26-0,58), anticoagulant therapy (HR 0,3; 95%CI 0,23-0,4), and antiviral therapy (HR 0,4; 95% CI 0,3-0,5). Steroids (HR 0,4; CI95% 0,3-0,6), convalescent plasma therapy (HR 0,2; CI95% 0,08-0,57), and anti-interleukin-6 therapy (HR 0,7; IK95% 0,46-1,03) reduces the risk of inpatient death in severe COVID-19 pneumonia. Hospital resilience is maintained by having zoning policies, implementing risk mitigation principles, and modulating services according to the principle of proportionality. Hospital networks help reduce financial burdens through providing donations or grants. Hospital vulnerabilities include the fragility of infrastructure, slower process of return to regular services, fearness among health workers and pre-hospital triage not adequately performed. There was no interaction between the pneumonia etiology variable and the surge phase of cases, and there was no interaction between the pneumonia etiology variable and the length of stay in the ER. Biological, environmental and health service determinants are associated to the inpatient survival rate of pneumonia during the COVID-19 pandemic. Hospital resilience needs to be assessed by looking at the impact of the pandemic on mortality from COVID-19 pneumonia and non-COVID-19 pneumonia. Management of the surge capacity due to the COVID-19 pandemic needs to consider zoning principles, proportional service modulation, psychological readiness of health workers, financial condition of hospitals, and infrastructure readiness. Prehospital triage is an external factor that helps improve hospital resilience. Keywords : Pneumonia; COVID-19; Pandemic; survival; hospital resilience