

ABSTRACT

Background: Pneumonia is a leading cause of morbidity and mortality, with a growing case burden and rising costs within the National Health Insurance (JKN) system. Central Java is among the provinces with a high case load. To ensure efficient and guideline-adherent care, Utilization Review (UR) is required. Length of stay (LOS) is a key indicator, where very short hospitalizations may signal non-compliance, increased risks of death and readmission. This study aimed to identify potential non-compliance, inefficiency, and quality of care issues in pneumonia by quantifying the proportion of LOS under three days, 30-day readmission, and in-hospital mortality, and by identifying their determinants.

Methods: A cross-sectional study was conducted using BPJS Kesehatan Sample Data for 2023 inpatient claims of adult pneumonia cases in Central Java. There were 1,045 cases, of which 799 cases were included in the 30-day readmission analysis among patients discharged in good condition. Independent variables were patient characteristics, clinical condition, and hospital type and ownership. The mediator variable was LOS < 3 days. Outcome variables were readmission and in-hospital mortality. Analyses used Chi-squared and Mann–Whitney U tests, mediation analysis, and weighted logistic regression.

Results: The proportion of LOS < 3 days was 3.39%. The main factors associated with LOS < 3 days were mild pneumonia without comorbidities (aOR = 11.48) and treatment in class 3 wards among subsidized (PBI) beneficiaries (aOR = 14.15). The 30-day readmission rate was 4.35%. No readmissions occurred among patients with LOS < 3 days. Moderate disease severity (aOR = 7.26) and treatment in type A hospitals (aOR = 5.96) were associated with higher odds of readmission. The in-hospital mortality rate was 15.65%. Factors associated with in-hospital mortality were moderate (aOR = 3.57) and severe (aOR = 2.71) pneumonia, and treatment in type A hospitals (aOR = 10.15).

Conclusion: Retrospective UR findings indicate potential non-compliance with pneumonia clinical practice guidelines (PNPK) in hospital care and highlight concerns regarding quality of outcomes. The mediating role of LOS could not be confirmed due to data limitations.

Keywords: Pneumonia; Length of stay; Mortality; Readmission; Quality of health care; National Health Insurance (JKN); Central Java

INTISARI

Latar Belakang: Pneumonia merupakan salah satu penyebab kesakitan dan kematian dengan beban kasus dan biaya yang terus meningkat dalam sistem JKN. Jawa Tengah termasuk provinsi dengan kasus tinggi. Untuk menjamin pelayanan efisien dan sesuai pedoman, diperlukan *Utilization Review* (UR). Lama rawat inap (*Length of Stay-LOS*) menjadi indikator penting, di mana perawatan terlalu singkat dapat menandakan ketidakpatuhan, meningkatkan risiko kematian, readmisi, dan inefisiensi. Tujuan penelitian ini mengidentifikasi potensi ketidakpatuhan, inefisiensi, dan mutu layanan pneumonia dengan mengukur besaran LOS kurang dari tiga hari, readmisi, dan kematian semasa rawat serta mengidentifikasi determinannya.

Metode: Penelitian potong lintang menggunakan Data Sampel BPJS Kesehatan untuk klaim rawat inap 2023 pada pneumonia dewasa di Jawa Tengah. Terdapat 1.045 kasus, dengan 799 kasus untuk analisis readmisi 30 hari pada pasien pulang sehat. Variabel bebas adalah karakteristik pasien, kondisi klinis, serta tipe dan kepemilikan RS. Variabel mediator adalah LOS < 3 hari. Variabel terikat mencakup readmisi dan kematian. Analisis dengan menggunakan uji Chi-squared dan Mann-Whitney U, analisis mediasi, dan regresi logistik tertimbang.

Hasil: Terdapat 3,39% LOS < 3 hari. Faktor utama LOS < 3 hari adalah pneumonia ringan tanpa penyakit penyerta (aOR=11,48) serta perawatan di kelas 3 dengan kepesertaan PBI (aOR=14,15). Angka readmisi adalah 4,35%. Tidak ada readmisi pada kelompok LOS < 3 hari. Tingkat keparahan sedang (aOR=7,26) dan RS tipe A (aOR=5,96) berhubungan dengan peluang readmisi yang lebih tinggi. Angka kematian semasa rawat sebesar 15,65%. Faktor yang berhubungan dengan kematian semasa rawat inap adalah tingkat keparahan sedang (aOR=3,57), berat (aOR=2,71), dan RS tipe A (aOR=10,15).

Kesimpulan: Hasil UR retrospektif mengindikasikan potensi ketidakpatuhan prosedur pelayanan di RS untuk kasus pneumonia terhadap PNPk dan isu mutu luaran. Peran LOS sebagai mediator tidak dapat disimpulkan karena keterbatasan data.

Kata kunci: Pneumonia; Lama Rawat Inap; Mortalitas; Readmisi; Mutu Pelayanan Kesehatan; Jaminan Kesehatan Nasional (JKN); Jawa Tengah