

INTISARI

Stroke merupakan penyebab kematian ketiga setelah penyakit jantung dan kanker, dan menempati urutan pertama penyebab kecacatan. Perawatan stroke membutuhkan biaya cukup tinggi karena risiko terjadinya kecacatan dan stroke berulang. Tujuan penelitian ini adalah menganalisis *Cost of illness*, faktor karakteristik yang mempengaruhi biaya, ketidaksesuaian biaya riil dengan tarif INA-CBG's, hubungan antara *outcome* klinik dengan biaya medik langsung, *health-related quality of life* (HRQoI) dan nilai utilitas pasien stroke iskemik.

Penelitian dilakukan dengan rancangan observasional analitik, data diambil secara retrospektif; perhitungan biaya medik langsung dari perspektif rumah sakit; data biaya non-medis langsung, biaya tak langsung, dan data kualitas hidup (utilitas) dari perspektif masyarakat. Subjek penelitian adalah pasien stroke iskemik di sepuluh rumah sakit. Penilaian *outcome* klinik dan biaya medik langsung dilakukan selama periode 1 tahun setelah pasien mengalami stroke pertama kali. Sumber data yang digunakan adalah rekam medik, data biaya dari bagian keuangan, dan data obat dari bagian farmasi. Penilaian biaya non-medis langsung, biaya tak langsung dan kualitas hidup (dinilai menggunakan kuesioner nilai index utilitas EQ-5D-5L pada saat pasien melakukan kunjungan ke rumah sakit. Keparahan stroke dinilai menggunakan *modified rankin scale* (mRS) yang sebelumnya sudah dilakukan translasi dan validasi. Untuk mengetahui hubungan *outcome* klinik dan biaya medik langsung berdasarkan variabel karakteristik pasien dilakukan analisis *mann-whitney* untuk 2 kelompok dan *kruskal-wallis* untuk lebih dari 2 kelompok.

Hasil penelitian diperoleh dari 350 subjek, yang terdiri dari 201 laki-laki dan 149 perempuan dan menunjukkan *Cost of illness* stroke iskemik di rumah sakit Pemerintah sebesar Rp. 1.083.046.106 per tahun (n=175) dan rumah sakit swasta Rp 1.735.944.794 per tahun (n=175). *Cost of illness* pasien stroke iskemik di rumah sakit Wilayah DI-Yogyakarta sebesar Rp 2.818.990.900 per tahun (n=350). Total rata-rata biaya terapi rawat jalan sebesar Rp 429.645 per episode dan Rp 2.156.297 per tahun. Total biaya rata-rata terapi rawat inap sebesar Rp 5.339.753 per episode dan Rp 5.912.881 per tahun. Hal akan memberikan beban ekonomi yang sangat berat bagi masyarakat DI-Yogyakarta dengan UMR 2016 sebesar Rp. 1.337.645 untuk membiayai terapi pengobatan stroke iskemik. Faktor yang mempengaruhi biaya rawat inap meliputi usia, jenis kelamin, lama perawatan, kelas perawatan, kepemilikan rumah sakit dan tipe rumah sakit, sedangkan usia, jenis kelamin, kepemilikan rumah sakit dan tipe rumah sakit mempengaruhi biaya rawat jalan. Tarif INA-CBG's dan biaya riil menunjukkan tidak terdapat perbedaan yang signifikan baik rawat jalan dan rawat inap pada rumah sakit tipe B, C, dan D. Nilai index utilitas EQ-5D-5L pasien stroke iskemik tanpa gejala sebesar $0,927 \pm 0,116$, tanpa kecacatan yang signifikan sebesar $0,718 \pm 0,159$, kecacatan ringan sebesar $0,550 \pm 0,208$, kecacatan sedang sebesar $0,338 \pm 0,202$, kecacatan sedang sampai berat sebesar $-0,412 \pm 0,271$, kecacatan berat sebesar $-0,563 \pm 0,176$. *Outcome* klinik dari 416 pasien stroke iskemik dengan 421 kejadian *outcome* klinik, yaitu stroke berulang dan kecacatan sebesar 10,45% (n= 44), kecacatan 86,46% (n= 364), dan kematian 3,09% (n=13). Kejadian stroke berulang dan kecacatan tidak mempengaruhi biaya medik langsung per tahun, baik biaya rawat jalan maupun rawat inap. Hal ini disebabkan karena kondisi keparahan pasien pada waktu masuk rumah sakit tidak ikut dipertimbangkan dalam penelitian ini. Hasil penelitian ini digunakan dalam penentuan kebijakan kesehatan, asuransi kesehatan dan sumber data farmakoekonomi penyakit stroke iskemik.

Kata Kunci : Stroke iskemik, *Cost of illness*, EQ-5D-5L, *outcome* klinik, INA-CBG's

ABSTRACT

Stroke is the third leading cause of death after heart disease and cancer, and ranks as the first cause of disability. Stroke treatment requires high cost because of the risk of recurrent stroke and disability. The aims of this study were to measure the cost of illness, characteristic factors that influence costs, mismatch between real costs and INA-CBG rates, the relationship between clinical outcomes and direct medical costs, health-related quality of life (HRQoL) and utility value of ischemic stroke patients.

This study was conducted with an analytic observational design. Data was collected retrospectively. The calculation of direct medical cost based on hospital perspective was done cross-sectionally, while data of direct non-medical cost, indirect cost, and utility were collected based on community perspective. The subjects were ischemic stroke patients in ten hospitals at DI Yogyakarta province. The assessment of clinical outcome and direct medical cost was carried out during a period of 1 year after the first stroke onset. The data were obtained from medical records, data of cost from the finance department, data of medicine from the pharmaceutical department. The assessment of direct non-medical cost, indirect cost and quality of life (utility) (questionnaire EQ-5D-5L) were performed at the time of the patient's visit to the hospital. The severity of stroke was assessed using modified rankin scale (mRS) which has previously been translated and validated. To determine the relationship between clinical outcomes and direct medical costs in accordance with patient characteristic variables, mann-whitney was applied to analyze two groups while kruskal-wallis was used for more than two groups.

Study's results were obtained from 350 subjects consisting of 201 male and 149 female and study found that Cost of illness of ischemic stroke in public hospitals was Rp. 1.083.046.106 per year (n=175) and private hospital was Rp 1.735.944.794 per year (n=175). The cost of illness for ischemic stroke patients in the hospitals at DI Yogyakarta province was Rp 2.818.990.900 per year (n = 350). The average total cost of outpatient therapy was Rp. 429.645 per episode and Rp 2.156.297 per year. The average total cost of inpatient therapy was Rp 5.339.753 per episode and Rp 5.912.881 per year. This will provide a very heavy economic burden for the people of DI Yogyakarta with a 2016 minimum regional wage (UMR) of Rp 1.337.645 to pay for ischemic stroke treatment therapy. Factors affecting inpatient cost including age, gender, treatment duration, treatment class, hospital ownership and type, while outpatient cost was affected by age, gender, and hospital ownership and type. There was no significant difference between INA-CBG's tariff and real costs in both outpatient and inpatient cost at type B, C, and D hospitals. Out of 416 ischemic stroke patients, there were 421 cases of clinical outcome, including 10,45% (n=44) recurrence stroke, 86,46% (n=364) disability and 3,09% (n=13) died. The incidence of recurrent stroke and disability did not affect direct medical costs per year, both outpatient and inpatient costs. This was due to the condition of the patient's severity at the time of hospital admission was not considered in this study. The value of EQ-5D-5L utility index in patients without symptoms was $0,927 \pm 0,116$, conditions without significant symptoms was $0,718 \pm 0,159$, mild disability was $0,550 \pm 0,208$, moderate disability was $0,338 \pm 0,202$, moderate to severe disability was $0,412 \pm 0,271$, severe disability was $-0,563 \pm 0,176$. The results of this study are used in determining the health policy, health insurance and pharmacoeconomic data sources of ischemic stroke.

Keywords: Ischemic stroke, Cost of illness, EQ-5D-5L, clinical outcome, INA-CBG's