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The Attributable Cost, And Length Of Hospital Stay Of Central Line Associated Blood Stream Infection In Intensive Care Units In Brazil. A Prospective, Matched Analysis

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Background: Limited information is available on the financial impact of central venous catheter (CVC)-associated bloodstream infection (BSI) in Brazil.

Objectives: In order to calculate the cost of BSI in intensive care units, a 2 - year prospective nested case-control study was undertaken at three ICUS of one hospital in Brazil.

Methods: This study was performed in three adult intensive care units (ICUs) from 1 Brazilian hospital. 70 patients with BSI (cases) and 140 patients without BSI (controls) were matched for gender, age, severity illness score, medical or surgical stays, diabetes, hypertension, angina pectoris, COPD, renal impairment, abdominal surgery, trauma, and presence of previous infection.

Patient's length of stay (LOS) in the ICU was obtained prospectively on daily rounds; the estimated cost of each ICU day was provided by the hospital's finance department; the average estimated cost of antibiotics prescribed for BSIs was provided by the hospital's pharmacy department.

Results: The mean LOS of patients with BSI was 30.58 days. The mean LOS of patients without BSI was 6.95. The mean extra LOS for cases (compared to the controls) was 23.63 days. The mean cost of patients with BSI was US\$ 9,843.35. The mean cost of patients without BSI was US\$ 1,937.18. The mean extra cost for cases (compared to the controls) was US\$ 7,906.17

Conclusions: CVC-associated BSI results in significant patient morbidity and is associated with considerable increased utilization of health care resources. In the present study, patients with BSI had significant prolongation of hospitalization, and cost. The present study supports the need for routine utilization of preventative interventions to reduce CVC-associated BSIs as a means of reducing health care costs.