Abstract

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Economic impact of hospital (nosocomial) infections

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Background and objectives

The economic impact of nosocomial infections is over 10 billion dollars. Nosocomial infection is recognized as a patient safety problem requiring preventive interventions. However, hospitals are closely monitoring expenditure and need accurate estimates of potential cost savings from such prevention programmer. Best clinical practices (BCPs), such as hand hygiene and sanitation, screening and basic precautions, reduce this burden. Because implementation of screening and outbreak response is costly to healthcare, resource allocation for interventions requires consensus among stakeholders with perspectives on how to weigh the risks and benefits of prospective interventions. We therefore examined economic evaluations of these practices. Economic analysis can facilitate decision-making, but it is new in the prevention and control of nosocomial infections. This paper conducted a systematic review of economic evaluations related to these four BCPs using a discounting approach including prevention and control of diarrheal infections associated with Clostridioides difficile, methicillin-resistant Staphylococcus aureus, Vancomycin-resistant enterococci and carbapenemase-resistant Gram-negative bacilli.

Materials/patients

We considered patients admitted to hospital wards for infections who were 65 years of age or older. All patients admitted to hospital wards were included. Patients who died or were discharged within 48 hours of admission were not included.

Methods

This retrospective study analysed hospital administration and the quality of medical databases. A cost analysis was performed by assessing the medical products and materials used for direct medical care using the median and based on the length of stay of patients in the inpatient unit. Costs were also adjusted according to the length of stay of patients in the intensive care unit.

Results

The results were analysed using cost-minimization, cost-effectiveness, cost-utility, cost-benefit and cost-consequence analyses. Hospitalization and additional costs were unrelated to the various infection sites and bacterial pathogens causing nosocomial infections; however, medical costs attributable to nosocomial fungal infections were higher than those of bacterial infections. Nosocomial infections are associated with higher resource utilization and longer length of stay. The reimbursement strategy (DRG) is the main parameter influencing the financial incentives to prevent nosocomial infections.

Discussion

Nosocomial infections have a significant impact on hospital length of stay and medical care costs and constitute a major health problem with morbidity, high mortality, prolonged hospital stay and increased direct patient care costs. Nosocomial infections have contributed to the increase in costs and length of hospital stay. Nosocomial infections associated with intensive care units have contributed to increased costs and longer hospital stays. Therefore, their control and prevention can play an important role in reducing medical costs, hospitalization and patient mortality.