

Abstract

Antibiotics Prescribed Among Patients with Severe Acute Respiratory Illness in Bangladesh

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Abstract

Background: Proper use of antibiotics helps to minimize the recovery time of patients with severe acute respiratory illness (SARI). Although Bangladesh faces increasing concerns with antimicrobial resistance, there is no national guideline covering preferred antibiotics for SARI cases. Hospital Based Influenza Surveillance (HBIS) identifies SARI patients caused by different microorganism including influenza and other bacterial organisms.

Objective: We analyzed HBIS data to observe the antibiotic prescription pattern for SARI patients.

Methods: We analyzed HBIS data from May 2013 to December 2016 from 12 sentinel hospitals regarding length of hospital stay, chronic illness, different classes and generations of antibiotics prescribed to SARI patients. We used proportion test with 95% confidence interval to compare use of different classes of antibiotics.

Results: Out of 9146 reported SARI cases, 66.3 % were male and 33.7% were female. Among them, 86.6% patients were prescribed antibiotics. Overall, proportion of cephalosporin use was the commonest (54.1%) followed by penicillin (27.3%), macrolides (13.2%) and fluoroquinolones (2.7%). Although use of penicillin was higher (43.5%) than cephalosporin (38.1%) in elderly patients ($P<.05$). The third-generation cephalosporin was most commonly prescribed (91%). Antibiotic prescription was higher in patients who had no chronic illness (87.2%) than those with asthma (84.1%), hypertension (81.5%) and diabetes (81.1%) ($P<0.05$ for all comparison). SARI patients who were prescribed macrolides stayed in hospital for shorter period (median 3 days, 2-4 IQR) than those prescribed cephalosporin (median 4 days, 3-6 IQR) and penicillin (median 4 days, 2-6 IQR). In government hospitals cephalosporin was commonly prescribed (69.7%) than non-government hospitals (30.3%) ($P<.001$).

Conclusions: Newer generation cephalosporin was most frequently prescribed, which raises the concern of developing antimicrobial resistance. As patients given macrolides had a shorter hospital stay may be recommended for SARI patients. However, development of a national guideline for management of SARI patients including appropriate use of antibiotic is recommended.

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