

**Antibiotic-Prescribing Patterns among Patients with Respiratory Symptoms in Eastern
Province, Kingdom of Saudi Arabia**

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Abstract

Background: Upper respiratory tract infections (URTIs) represent the most common diagnosis in ambulatory care settings. Some of these infections are properly treated with antibiotics, but evidence points to an inappropriate overuse of antibiotics in URTI management. This overuse is linked to antibiotic resistance, drug-related adverse effects, and increased cost.

Objective: This study evaluated the prevalence and predictors of antibiotic prescription for patients with URTI symptoms at the primary healthcare centers (PHCCs) and pediatric emergency department (ED) of Maternity and Children Hospital (MCH) in Dammam, Saudi Arabia.

Methods: A prospective study was conducted in the PHCCs and pediatric ED of MCH. Trained physicians collected data on patients with URTI symptoms aged 3 years or older. Scores based on modified Centor criteria were calculated, and rapid antigen detection tests (RADTs) were conducted for all study participants.

Results: Out of 469 patients with a URTI, 141 (30.1%) received a prescription for an antibiotic, with a smaller proportion in the PHCCs (n=85; 24.4%) than in the pediatric ED (n=56; 46.3%). The main significant predictors of antibiotic prescription in terms of odds ratio (OR) and 95% confidence interval (95% CI) were a positive RADT result (OR=41.75, 95% CI=4.76–366.28), the presence of tonsillar exudate (OR=5.066, 95% CI=3.08–8.33), tender and/or swollen anterior cervical lymph nodes (OR=4.537, 95% CI=1.96–10.54), and fever (OR=3.519, 95% CI=2.33–5.31). A higher Centor score was also a predictor (2 to 5 vs. –1 to 1) (OR=2.72, 95% CI=1.8–4.12). The absence of a cough was not a significant predictor (OR=1.13, 95% CI=0.74–1.72).

Conclusions: Although a positive RADT increased the likelihood that a patient would be prescribed an antibiotic at the time of assessment, most antibiotic prescriptions were not justified. To control expenses, prevent adverse effects, and limit the spread of antibiotic resistance, efforts should be made to reduce unnecessarily high antibiotic usage.