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Antimicrobial resistance among patients in PED in an Egyptian hospital

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Background: Bacterial resistance to commonly used antimicrobial agents is growing up day by day in both community and hospital settings. Therefore this study was initiated to benchmark prevailing resistance rates for the most common bacterial pathogens in PED of Specialized Pediatric Hospital aiming to be able to design local data-based antibiotic policy.

Methods & Materials: A cross sectional study performed on 970 patients selected from 1085 cases admitted to PED from August 2011–August 2012. All specimens were collected, processed, cultured and the isolates were identified according to the standard microbiological techniques. AST of all isolates was determined following the performance standards set by CLSI.

Results: Pneumonia cases were the commonest (79%). The predominant pathogen in pneumonia was *Pseudomonas* (27.7%), while *CONS* (42.9%) and *E.coli* (63.6%) were the most prevalent in sepsis and UTI respectively. Methicillin resistance was encountered in 75% of *Staphylococci aureus* and 99% of *CONS* isolates. All *E.coli* (100%) and 73% of *Klebsiella* spp. strains exhibited phenotypic ESBL patterns. Antibiotic sensitivity pattern in pneumonia was; ciprofloxacin 43.4%, imipenem 42.3% and meropenem 37% in Gram negative organisms, while Gram positive organisms showed 100% sensitivity to vancomycin, teicoplanin, clindamycin and erythromycin and 66% to doxycycline. In sepsis; Gram negative organisms were sensitive to: ciprofloxacin 67%, aztreonam 53.6%, gentamycin 41.3%, imipenem 40.6%, and amikacin 36% and Gram positive organisms were 100% sensitive to vancomycin, 86.5% to teicoplanin and 42.5% to clindamycin. Gram negative organisms isolated from patients with UTI showed highest sensitivity to: ciprofloxacin 83.3%, meropenem 44.3% and amikacin 25%, while Gram positive organisms were 100% sensitive to vancomycin and gentamycin.

Conclusion: Alarming increase in MDR organisms, enhancing demands to review strictly the infection control measures to limit development and spread of bacterial resistance. Establishment of antibiotic policy guided by the collected data in our study, which is updated periodically according to microbiology laboratory reports to monitor variations in pathogen occurrences and emerging antimicrobial resistance, especially because new agents such as fluoroquinolones are recently used to a greater extent in this age group.

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Policies on facemasks use to protect HCWs from respiratory infections: A cross sectional surveyA.A. Chughtai^{1,*}, R. MacIntyre², Y. Peng³, Q. Wang³, Z.I. Toor⁴, T.C. Dung⁵, H. Seale²¹ University of New South Wales Australia, Sydney, Australia² University of New South Wales, Sydney, Australia³ CDC China, Beijing, China⁴ National TB Control Program, Islamabad, Pakistan⁵ National Institute of Hygiene and Epidemiology, Hanoi, Viet Nam

Background: Currently there is an ongoing debate and a dearth of evidence on the selection of masks and respirators for the prevention of respiratory infections in HCWs. The aim of this study was to explore the recommendations around the facemask use in the national guidelines in low/middle income countries.

Methods & Materials: A cross sectional survey was conducted in China, Pakistan and Vietnam. A range of health and infectious disease stakeholders were invited to participate. The survey was completed via face to face interviews. Three diseases were selected for this study; influenza (including seasonal, avian and pandemic influenza), SARS and TB.

Results: In all three countries surveyed, recommendations regarding the use of masks/respirators are captured in both general and disease specific infection control guidelines. In Pakistan and China, the guidelines were developed in line with WHO and CDC recommendations and participants from Vietnam highlighted that their guidelines are in line with the WHO recommendations only.

While the guidelines from both Pakistan and China discuss at length the use of masks/respirators, only the Chinese policy includes information regarding the regulation over use and certification processes for respirators. All guidelines document the need for training and fit testing; however no system exists to monitor the training and fit testing programs in three countries.

There was some consistency in regards to the types of masks recommended for influenza, SARS and TB. Various types of facemasks (paper mask, cloth mask, surgical masks and respirators) are recommended for routine care in three countries; however surgical masks and respirators are the preferred options during high risk situations. The description of what constitutes a low and high risk situation also varied in the guidelines. Extended use of facemasks is not recommended in the Chinese and Vietnamese guidelines; however, participants in Pakistan indicated that extended use is suggested. Even though the practice is common, the reuse of masks after decontamination is not recommended in any guideline.

Conclusion: There is a need to examine the available evidence and develop a comprehensive policy on the use of facemasks in various respiratory infections. The policy should address critical areas, like regulation, training and fit testing.

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