The Medical Educators' Contribution to Curtailing Antimicrobial Resistance

The European Commission has stated that antimicrobial resistance now takes the lives of approximately 25 000 patients each year throughout the European Union.¹

While investing in research will ultimately lead to the discovery of new antimicrobial agents, basic educational groundwork is likely to be just as important.

Prescribing antibiotics inappropriately is the major cause of antibiotic resistance.²

Two years ago, in a 1000-bed North East General Hospital, I audited, with Hospital approval, the application of diagnostic criteria for community-acquired pneumonia (CAP) and acute exacerbation of chronic obstructive pulmonary disease and subsequent compliance with Hospital antimicrobial policy. While 92% of diagnoses complied with Hospital guidelines, inappropriate antimicrobial prescribing totalled 50%. The main sources of this deficit were two-fold: poor application of scores from CURB-65 (a simple system that assigns up to 5 points for clinical features of pneumonia: Confusion, Urea [serum] level, Respiratory rate, Blood pressure, Age over 65)³ in differentiating among mild, moderate, and severe cases of CAP, and reliance on anecdotal "evidence" and therefore ignoring Hospital antimicrobial policy.

Simple measures such as the availability of a CURB-65 assessment tool and focused education that targets antimicrobial reasoning could help reduce this deficit and thus reduce the emergence of antimicrobial resistance.

While it is impossible to use this reasoning to explain antimicrobial resistance alone, it serves as an indicator that fundamentally, we should do better with what we have while seeking new antimicrobials.

An audit demonstrated that educating junior doctors (residents) and using a *restricted* group of antibiotics

resulted in a reduced incidence of multidrug-resistant microbes.⁴

In its recent document "*Tomorrows Doctors*," the United Kingdom's General Medical Council defined standards and outcomes of undergraduate teaching.⁵ Although general principles are addressed, complexities and practicalities of antimicrobial prescribing are not. As a newly qualified junior doctor, I feel my undergraduate training prepared me well with regard to the knowledge and skills I now use. However, I feel more time could have been devoted to discussing the basics of practicing, particularly the intricacies of prescribing common drugs such as antibiotics.

The European Commission has assigned approximately €600 million (\$735 million US) to research tackling antibiotic resistance.¹ If a small fraction of this amount were now invested in educating junior doctors about antimicrobial prescribing, we would have already laid the foundations for safeguarding the future of newly discovered antimicrobials against pathogen resistance, thus beginning to reverse the escalating problem of antimicrobial resistance.

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