



The factors influencing antibiotic prescribing in a rural hospital emergency department with no on-site infectious diseases support



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Aim

Overuse of antibiotics is associated with the emergence of multidrug-resistant organisms. This study aimed to evaluate and understand antibiotic prescribing practices in a rural hospital emergency department (ED).

Methods

Quantitative component- Two hundred ED antibiotic prescriptions were audited (longitudinal observational method) and assessed for appropriateness against Therapeutic Guidelines: Antibiotic. Logistic regression analysis was used to identify variables that predicts inappropriate antibiotic prescribing (IAP).

Qualitative component- Semi-structured interviews (duration 12-30 minutes) were conducted with 16 ED doctors using case vignettes. Interviews were audiotaped, transcribed verbatim and analysed using the framework method.

Results

This study revealed that 31% of antibiotics prescribed were inappropriate and identified that the choice of antibiotic significantly influenced IAP. Selection of the antibiotic: ceftriaxone predicted IAP with an odds of IAP 6.6 times higher than penicillin (95% CI 2.4- 20.0; $P < .001$).

Interviews identified prescribing culture, lack of awareness of local hospital guidelines and organisational constraints after-hours as the main factors that influenced IAP. Despite high level of familiarity with Therapeutic Guidelines: Antibiotic, the study identified a culture of under-dosing and 'defensive medicine' associated with aminoglycoside prescribing.

Participants recommended strategies such as education, restricting antibiotic availability and locally developed consensus-based guidelines as way to improve prescribing.

Conclusion

This study found that broad-spectrum antibiotics, primarily ceftriaxone, are still widely overprescribed. Improving knowledge and guideline familiarity alone is not sufficient; the culture of prescribing needs to change to improve antibiotic prescribing.

Implications for practice

This information will help to target antimicrobial stewardship interventions that could lead to practice improvement and better clinical outcomes.

Keywords: Antibiotic, prescribing, resistance, restriction, stewardship

For the full report on this project visit our website, follow the link to the Rural Research Capacity Building Program and click on 'view completed projects'

Girish works as a Chief pharmacist with the Bega Valley Health Service. Girish has an interest in patient safety and quality and is passionate in improving healthcare standards in regional and rural areas. Girish has a postgraduate diploma in clinical pharmacy, a diploma in management and currently undertaking his masters in health services management.



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