Health-care-associated infections - Authors' reply

ZINGG, Walter, et al.


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Role of co-trimoxazole for urinary tract infections in developing countries

We read James Church and colleagues’ recent Review with great interest. The authors comprehensively described the roles of an old antimicrobial, co-trimoxazole. However, one of the main uses of this drug has been the treatment of urinary tract infections, which was not mentioned in their report.

Increasing rates of resistance to co-trimoxazole in *Escherichia coli* isolates, which are the main cause of urinary tract infections, have been a challenge in its empirical use. As described in Church and colleagues’ paper, the rate of resistance in urinary isolates in developing countries is high. Since this rate exceeded 20%, which is the accepted safety level for empirical use, the use of co-trimoxazole should be restricted to the treatment of the strains with known sensitivity to the drug. Cystitis might be an exception: the likelihood of cure for uncomplicated cystitis with co-trimoxazole treatment is 89%, 86%, 82%, and 79% when the resistance rates to co-trimoxazole are 0%, 10%, 20%, and 30%, respectively. Because of the high concentration of the drug in the urine and the favourable course of uncomplicated cystitis, a 3-day treatment of co-trimoxazole can be given to patients with this disease.

Even in regions where co-trimoxazole resistance is lower than 20%, concerns still persist about its use, especially in people who have recently used co-trimoxazole or another antimicrobial and have travelled recently to an area with high rates of co-trimoxazole resistance. International travel seems to be a risk factor for infections with resistant bacteria, and co-trimoxazole has been reported to carry high rates of resistance among travellers. This situation presents a challenge for countries with low rates of resistance since the drug can be used freely there without consideration of the high rates because the key components are concepts rather than single actions. The role of team-oriented and task-oriented teaching is one example for which evidence came from both quantitative studies—where such an approach was part of the intervention strategy—and qualitative studies shaping the role of health-care workers in the design and conduct of a prevention strategy. The concept that individual experience is perceived to be more important for IPC than strategies based on logic and reasoning also was provided by qualitative studies. In view of the heterogeneity of the studies with various interventions and different study designs we were not able to determine effect sizes or quantify the contribution of single components of comprehensive prevention strategies on the outcomes. However, in the appendix (pp 10–26) we summarise the outcome data for each study contributing to the evidence base.

We declare no competing interests.

Walter Zingg, Alison Holmes, Anna-Pelagia Magiorakos, *Didier Pittet didier.pittet@hcuge.ch*
Infection Control Programme, University of Geneva Hospitals and Faculty of Medicine, Geneva, Switzerland (WZ, DP); Imperial College London, London, UK (AH); European Centre for Disease Prevention and Control, Stockholm, Sweden (A-PM); and WHO Collaborating Centre on Patient Safety, University of Geneva Hospitals and Faculty of Medicine, 1211 Geneva 14, Switzerland (DP)


Authors’ reply
The body of scientific literature about patient safety and particularly infection prevention and control (IPC) is constantly growing. Current methods for evidence synthesis tend to favour quantitative forms of evidence, and systematic reviews often omit qualitative evidence. Experts have expressed the need to broaden the knowledge base in public health, in which randomised controlled trials are rare or methodologically not feasible. Reviews incorporating qualitative studies can provide evidence for contextual efficacy and effectiveness in IPC.

It was evident that we needed to include in our paper both quantitative and qualitative study designs to address the objectives of the systematic review. The analysis was thematic by orienting towards five predefined dimensions. The dimensions left room for emerging themes (or elements as we named them), which were not predefined but emerged during the process of quality assessment. We summarised the quality criteria for the different study designs in our appendix (p 9). The matrix is based on the Effective Practice and Organisation of Care Review Group (EPOC) criteria, and various guidelines for assessing the quality of non-controlled and qualitative study designs. We did not distinguish between quantitative and qualitative evidence to determine the strength of recommendation, but aimed to provide transparent reporting in short descriptions in the text and appendix (pp 10–26).

The inclusion of quantitative and qualitative study designs in our systematic review was feasible because the key components are concepts rather than single actions. The role of team-oriented and task-oriented teaching is one example for which evidence came from both quantitative studies—where such an approach was part of the intervention strategy—and qualitative studies shaping the role of health-care workers in the design and conduct of a prevention strategy. The concept that individual experience is perceived to be more important for IPC than strategies based on logic and reasoning also was provided by qualitative studies. In view of the heterogeneity of the studies with various interventions and different study designs we were not able to determine effect sizes or quantify the contribution of single components of comprehensive prevention strategies on the outcomes. However, in the appendix (pp 10–26) we summarise the outcome data for each study contributing to the evidence base.

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