

Infection control: prescribe while doing no harm in the era of antibiotic resistance

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Prescribing antibiotics without considering the risk of resistance is no longer possible today. First, antibiotic resistance is rising to high levels across the world, threatening ability to treat infectious diseases, even the most common ones. Second, antibiotic resistance is accelerated by the misuse of antibiotics and poor infection prevention and control.

In hospitals and community settings, ongoing research takes a holistic approach by addressing different aspects: diagnosis, treatment and prevention. We are conducting several descriptive studies with the objective of filling in data gaps on the etiologies of bacterial infections, antimicrobial resistance and to adapt therapeutic protocols. First, several etiology studies in children in sub-Saharan Africa and a study among adults in the Middle East are described. Next, documentation of how antibiotics are prescribed in the field helps to provide a more complete picture. However, there is still a need to describe gaps and opportunities to improve antibiotic formulation, especially in pediatrics.

Concerning infection prevention, an ongoing study on nosocomial infections and hygiene practices in a pediatric hospital in Niger is presented. We also discuss how the use of antibiotic prophylaxis can increase the transmission of multi-drug resistant organisms within the community. Finally, we discuss how research on infection prevention and control and antibiotic resistance can help improve the treatment protocols while reducing the impact and spread of resistance.

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