

The antibiotic resistance patterns shown in an acute trauma hospital in Aden, Yemen from 2018 to June 2021

Rami Malaeb, Epicentre, UAE; Yousef Nagwan, MSF, France , Yemen

Background

Antimicrobial resistance (AMR) is a global health problem and growing at an alarming rate, resulting in a rapid deterioration of the effectiveness of antibiotics. The middle and low-income countries are currently carrying the highest burden resulting in an increased risk of death, prolonged treatment duration and unaffordable costs of antibiotic therapy. In countries like Yemen, this problem appears to be more complex due to the current war, high number of trauma patients and limited access to healthcare. In this study we aimed to describe the clinical characteristics and antimicrobial resistance patterns among patients treated at the MSF Aden Acute Trauma hospital.

Methods

We conducted a retrospective descriptive analyses using routinely collected programme data for all patients who were admitted between 2018 and June 2021 and received antibiotic therapy for a diagnosed infection based on MSF guidelines.

Results

The study cohort consisted of 481 trauma patients treated with antibiotics for more than 500 infections. The most common infections were soft and skin tissue infection (25%), intra-abdominal infection (20%), and osteomyelitis (20%). Secondary blood stream infections were also present in 20% of all the diagnosed infections. 65 % of these patients were infected with at least one multi-drug resistant (MDR) organism. A wide variety of 993 isolated organisms were detected mainly consisting of *Escherichia coli* (20%), *Enterococcus faecalis* (14%), *Staphylococcus aureus* (9.7%), *Pseudomonas aeruginosa* (8.6%), and *Klebsiella pneumoniae* (8.2%). The antibiotic resistance patterns for the most common antibiotics showed a high level of resistance.

Conclusion

The findings of this study showed a very high number of MDR infections among trauma patients in Aden with worrisome drug resistance rate to the most common antibiotics. This would assist MSF in reviewing its current empiric treatment and in strengthening its antibiotic stewardship programme.

A high level of antibiotic resistance patterns were observed at the MSF Aden trauma centre highlighting the need to strengthen the antibiotic stewardship programme and evaluate the current empiric treatment provided.

