Abstract #: 1536
Antimicrobial resistance in the emerging COVID-19 pandemic

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Background: Inappropriate usage of antibiotics among COVID-19 patients can raise disastrous effects on antimicrobial resistance management and antibiotic stewardship programs. A study from USA reported 71% of COVID-19 patients received antibiotics while only 4% had bacterial co-infection. Similar findings were reported from a review of data from COVID-19 cases in Asia, which reported more than 70% of the patient receiving antibiotics however less than 10% on average had bacterial coinfection. The World Health Organisation discourages the use of antibiotics for mild cases of COVID-19, however they recommend it for severe cases at increased risk of secondary bacterial infection and death. This review aims to discuss the usage of antibiotics in COVID-19 patients pointing the role of bacterial coinfections, types of antibiotics used, and antibiotic resistance.

Methods: We systematically searched Medline, Cochrane library, Google Scholar for eligible studies published from 1st January 2020 till 29th May 2021. We included English language articles. We included patients of all age groups, in all settings. Primary outcome variable was bacterial coinfection and antimicrobial usage among COVID-19 patients.

Results: Less than 10% of the hospitalised COVID-19 patients had bacterial Co-infection. Antibiotics used among COVID-19 positives were moxifloxacin, ceftriaxone, azithromycin, piperacillin-tazobactam, levofloxacin, meropenem, etc.

Conclusions: Low proportion of COVID-19 patients had bacterial co-infection. Routine usage of antibiotics among COVID-19 positives should be discouraged.

Key messages: Bacterial co-infection among COVID-19 patients is low and therefore misuse of antibiotics among them should be discouraged.