P0895 Clinical and economic outcomes of antibiotic stewardship in a tertiary care hospital in southern India

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**Background:** Access to antimicrobials in India is unregulated. Retail data confirm antibiotic prescriptions have escalated in the last decade, contributing to antimicrobial resistance. Multi-drug resistant gram negatives are common in India and novel resistance mechanisms have emerged. Antimicrobial stewardship programs (ASP) are rare in India but are gaining momentum with government support.

**Materials/methods:** An ASP was established in Feb 2016 consisting of an administrative champion, hospitalist, microbiologist, intensivist and 5 pharmacists. Daily post-prescriptive review of targeted antimicrobials: polymyxins, carbapenems, tigecycline, and linezolid. Institutional guidelines for polymyxins were created. Socio-adaptive strategies included empowering pharmacist champions. The ASP evaluated & tracked appropriateness of antimicrobial dosing, frequency, route, and duration of therapy, de-escalation & compliance with ASP recommendations. We compared economic impact from pre-intervention period (Feb 2015 to Jan 2016) to post intervention period (Feb 2016 to Jan 2017).

**Results:** 1295 patients were prescribed targeted antibiotics in the study period. 64.9% of these patients were male. Bloodstream infection was the most common type of infection (31.4%), UTI (28.3%) and SSI (22.2%). There were 3278 total ASP interventions. 7.9% of the cases had no specimen to help narrow therapy. 420 (12.8%) were found to be inappropriate prescription, 375 (11.5%) were inappropriate drug, 297 (35.9%) had inappropriate loading dose was given, 300 (9.2%) had inappropriate maintenance dose, 415 (12.7%) had
inappropriate frequency and 642 (19.6%) had inappropriate duration of therapy. After ASP team intervened, 84% of consumption of Colistin was reduced, 74% of Linezolid, 29% of Tigecycline, 27% of Amphotericin B, 18% of Ertapenem. 0.8 days of LOS was saved because of ASP intervention. Total cost benefit analysis of 1.5 CR (170454 Euro) was saved in a year.

Conclusions: Preliminary results of an ASP in a large Indian hospital are encouraging. Compliance with ASP recommendations was about 50%. Potential antibiotic and department-specific targets for advanced stewardship interventions were identified. More ASP studies in settings with high gram-negative resistance are needed. Utilization of five antibiotics (colistin, linezolid, ertapenem, amphotericin B, and doripenem) dropped following implementation of ASP