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Antimicrobial susceptibility and resistance pattern of bacteriological isolates from various clinical samples: Our experiences from South Odisha, India

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Statement of the problem: Antimicrobial resistance to bacterial infection is a global health problem with increasing incidence and implications mainly in developing nations. AMR was the focus of World Health Day in 2011 when a 6-point AMR policy package was issued. The Chennai declaration is a document prepared by various stakeholders and experts in India to tackle challenges of antimicrobial resistance. Various studies have reported the increased economic burden due to AMR and the studies that were identified during the search have been included in reviews.

Research Methodology: The clinical samples processed in advanced automated system (Vitek-2 Bact alert 3D) with microbial susceptibility (ID) and antibiotic susceptibility (AST) done as per standard protocols.

Findings/Discussion: Automated systems provide rapid, accurate ID/AST and help in giving an actual phenotypic profile of resistance mechanism for each bacterial isolate tested. Urine was the most commonly processed sample with Escherichia coli and Enterococcus fecalis being the commonest bacterial isolates. Also resistance to beta lactam group of drugs was the commonest form of antimicrobial resistance (AMR) seen along with resistance to other groups of drugs being also common in various clinical isolates tested.

Conclusion & significance: In developing countries lack of antibiotic policy and guidelines for antibiotic usage will increase AMR. As the first WHO report on AMR surveillance shows, there is a need for an improved and coordinated global effort, including wider sharing of surveillance data, for public health actions, particularly for antibiotic resistance as outlined in the 2001 global strategy for containment of AMR.

Recommendations: Empirical and logical antibiotic usage in infective cases. Over the counter sale of antibiotics without prescription to be banned as in many developing countries. Culture sensitivity to be made a screening procedure prior to initiation of antibiotics in warranted cases.

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