



## EDITORIAL

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### MECHANISM OF ANTIBIOTIC RESISTANCE

Resistance to antimicrobial agents has become a major source of morbidity and mortality all over the world. Infectious diseases are currently a significant cause of morbidity and mortality worldwide. An assessment of these diseases shows that lower respiratory infections and diarrheal diseases are in the top ten causes of morbidity and mortality. Most infections are indeed bacterial in origin.

The spread of antibiotic resistance continues to add to infectious disease burden, both in human loss and in healthcare costs. There is documented resistance to all known antibiotics, resistance occurring soon after approval for use. Most pathogenic microorganisms have the capability of developing resistance to at least some antimicrobial agents.

The main mechanism of antimicrobial resistance includes limiting

uptake of the drug, modification of the drug target and active efflux of a drug. These mechanisms may be native or acquired. Acquired resistance has become very common especially in the hospital environment leading to nosocomial infections.

Veterinary use of antibiotics is also important in development of similar resistance through the food chain.

Suboptimal dosing of antibiotics also contributes to antibiotic resistance both in hospital and in the community.

The reality is that bacteria are highly adaptive to antimicrobials. In order to prolong the usefulness of the current antimicrobials we need rational use of antibiotics, proper stewardship and quality assurance.



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