

ANTIMICROBIAL RESISTANCE-REDUCING THIS WORRISOME SCOURGE

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Introduction- Anti-microbial resistance is a modern problem that is increasing exponentially. There is a proliferation of products containing antiseptics, disinfectants & overuse by the consumers is promoting the development of strains of microbes resistant to anti-microbial agents.

Resistant strains including pathogenic stains i.e. M. tuberculosis, S. aureus remain to proliferate .

New Strategies to avert Resistance- Development of Alternative Antiinfection Modalities

1)Screening for new naturally occurring antimicrobials.

Exploring the plant world, marine environment for novel antibiotics.
Manuka honey hampers the attachment of bacteria

2) Synergism -Use antimicrobial agents in combination

clavulanic acid & penicillin
Antimicrobials with synergistic effects. –Chitosan & benzoate

3) Phage therapy –the therapeutic use of bacteriophages to treat pathogenic bacterial infections.

Applications in human medicine , administration .
Effectiveness against a significant range of pathogenic bacteria.

4).Formulate anti-microbial agents that stop pathogens or infections but stimulate the immune response .

Maintain low toxicity. Inhibit TAM & other molecular activity
Stimulate the chemical activity of white blood cells

5) Another way to reduce development of resistance is to limit the use of antimicrobials to necessary cases.

6) Expand research on of development of semi-synthetics that disrupt adhesion ,attachment of bacteria

Summary:

Researchers have to develop strategies to stay ahead of the development of resistant pathogens. Continued research of new antimicrobial have to be done in whole organ systems. There should be universal standardization of extraction and in-vitro testing. This will aid in easier interpretation of results.