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Australia discovers new antimicrobial therapeutics to fight superbugs

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WHO has declared antimicrobial resistance to be among the top 10 global public health threats

Researchers from Monash University in Australia have discovered a potential new way to prevent antibiotic resistance and reduce antibiotic intake.

Antimicrobial resistance occurs when pathogens (bacteria, viruses, fungi and parasites) change over time and no longer respond to medicines, consequently infections become increasingly difficult or impossible to treat.

The study, ‘A Polytherapy based approach to combat antimicrobial resistance using cubosomes’, published in Nature Communications, has found that the use of nanoparticles in combination with other antibiotics, is an effective strategy to improve bacterial killing.

The paper makes an important new contribution to the field of antimicrobial resistance, finding a new way forward to fight multidrug-resistant bacteria.

The researchers have demonstrated that nanoparticle-based polytherapy treatments disrupt the outer membrane of superbug bacteria, and offer an improved alternative to the conventional use of loading the antibiotic within lipid nanoparticles.