

Researchers in UK and India collaborate to tackle urgent issue of antibiotic overprescription by dentists

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To develop teaching and training modules tailored to the Indian dental curriculum



Antibiotics play a crucial role in treating infectious diseases, but their effectiveness is diminishing globally as microbes adapt and develop resistance. The *University of Leeds (UK)* is leading international efforts to combat the rise of these so-called 'superbugs'.

In South Asia alone, deaths directly linked to antimicrobial resistance (AMR) are projected to reach 11.8 million between 2025 and 2050. One of the key drivers of this crisis is the unnecessary prescription of antibiotics for conditions like toothache. In response, the University of Leeds has partnered with the *Bharath Institute of Higher Education and Research (BIHER) in Chennai* to launch a pilot community engagement study focused on dental practitioners.

PhD researcher Dr Aarthi Bhuvanaraghan engaged local dentists in the study, providing them with a desk guide and a continuing professional development (CPD) module. Following this intervention, participants showed improved understanding and a readiness to change their prescribing habits. The CPD module is currently being digitised and will soon be freely accessible via the Indian Dental Association's website. This initiative forms the foundation of Dr Bhuvanaraghan's PhD research at the University of Leeds' School of Dentistry.

Professor Dr S. Bhumathan, Registrar at Bharath Institute of Higher Education and Research, said, "As a dental

practitioner, I have seen firsthand how the risks associated with antimicrobial resistance (AMR) are often underestimated, and how the critical role dentists can play in combating this issue is frequently overlooked. Dr Aarthi Bhuvanaraghan's research has powerfully exposed the widespread misuse of antibiotics in India, as well as the absence of clear national or local guidelines for dental practice. More importantly, her work has significantly raised awareness among dental professionals, contributing to better clinical practice and improved patient safety. With her support, we are now working towards embedding antimicrobial stewardship into the undergraduate dental curriculum."

Dr Bhuvanaraghan is supported by a multidisciplinary team at the University of Leeds, including Professor John Walley and Dr Rebecca King from the Nuffield Centre for International Health and Development, and Dr Vishal Aggarwal, Clinical Associate Professor in Acute Dental Care and Chronic Pain at the School of Dentistry. In collaboration with BIHER, the team aims to develop additional teaching and training modules tailored to the Indian dental curriculum. They are also actively seeking funding to expand the programme to other regions across India.