

Dentists in S'pore lack awareness on prescribing antibiotics: Study

Many have gaps in their understanding of antimicrobial resistance, say researchers

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While antimicrobial resistance has been declared a major global health threat, a lack of awareness has led some dentists in Singapore to continue prescribing antibiotics even when they are not needed, a local study has found.

Many also had gaps in their understanding of antimicrobial resistance despite being aware of its threat, said the researchers from the National University of Singapore's Faculty of Dentistry (NUS Dentistry).

Antimicrobial resistance occurs when bacteria develop resistance to standard antibiotics, as a result of the misuse or overuse of such antibiotics.

In 2025, the World Health Organization warned that one in six laboratory-confirmed bacterial infections worldwide in 2023 showed resistance to antibiotic treatments.

Studies have suggested that the phenomenon could be responsible for some 10 million deaths globally each year by 2050 – more than those caused by cancer annually.

Conducted between 2024 and 2025, the local study surveyed 280 of the more than 2,600 registered dentists here.

The majority – 71.2 per cent of

those surveyed – reported always or often prescribing prophylactic antibiotics – taken to prevent bacterial infections – after extracting impacted third molars, or wisdom teeth, in healthy patients.

This is despite increasing evidence indicating that such antibiotics are unnecessary, the researchers noted.

Similarly, 73.5 per cent of respondents reported routinely prescribing prophylactic antibiotics for dental implant surgery.

The researchers noted that while these antibiotics have been reported to reduce early implant failure, the absolute risk reduction was only 2.9 per cent, with their use showing no differences in early failure rates for otherwise healthy patients.

“Thus, prophylactic antibiotics should not be routinely prescribed, and should be reserved for surgically or medically complex patients,” they said.

The study also said that dentists working in the public sector showed greater awareness of the appropriate prescription of antibiotics.

The researchers stated that this could point to greater structured continuing education programmes and alignment of practices within public healthcare institutions.

“In contrast, private-sector dentists often have to rely on self-di-



NUS Dentistry's Charlene Goh, one of the supervisors for the research, said the findings were important as dentists were responsible for an estimated 10 per cent of all antibiotics prescriptions globally. ST PHOTO: BRIAN TEO

rected learning and independently seek out clinical updates,” they said.

Inappropriate prescribing was also more prevalent among dentists with more than 21 years of experience, the study said.

This was particularly so for antibiotic prophylaxis – where antibiotics are given before a procedure to prevent bacterial infec-

tions – with the researchers noting that this was an area with multiple practice guidelines revisions over the past decade.

Other factors influencing prescription included patients expecting antibiotics as well as concerns about facing legal disputes should a procedure go wrong, they said.

The researchers said that nation-

al guidelines could support “more consistent, evidence-based, and rational prescribing practices”.

They noted that the Academy of Medicine, Singapore published the country's first clinical practice guidelines on antibiotic prescriptions for dentistry in December 2024, while the survey was still being conducted.

“However, limited awareness

was observed among our respondents, underscoring the challenges in guideline dissemination,” they said.

Introducing structured channels for updates through professional dental organisations could better disseminate updated recommendations, they suggested.

The findings were published in the peer-reviewed *International Dental Journal* in July.

Charlene Goh, one of the supervisors for the research, said the findings were important as dentists were responsible for an estimated 10 per cent of all antibiotics prescriptions globally.

“That's quite a substantial number, even though people don't really think of dentists as antibiotic prescribers,” said Goh, who is the director of the discipline of primary dental care and population oral health at NUS Dentistry.

Moves to ensure more appropriate antibiotic prescriptions have not led to increased infection rates, she noted.

For example, a move by dentists from the National University Centre for Oral Health to reduce the overprescription of antibiotics for wisdom tooth surgery cut down prescriptions for such procedures from 84.5 per cent of patients to just 15.4 per cent, with infection rates remaining low.

The dentists surveyed were open to getting more training on antimicrobial resistance and appropriate prescription of antibiotics, Goh noted.

They were also keen on the use of mobile apps that could aid them in looking up when such prescriptions were necessary, she said.

Reducing the overprescription of antibiotics would help ensure they remain beneficial for those who need them the most, she said.

“It's about keeping antibiotics effective for the population and for people who need it, like old people who are immunocompromised.”

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