

Real-world use and adherence to doxycycline post-exposure prophylaxis (doxyPEP) prescribed in general practice: a longitudinal cohort study

Authors:

Traeger M^{1,2}, Dorling N^{1,2}, Asselin J^{1,2,3}, Cornelisse V^{4,5}, Guy R³, Mowat Y³, Haire B^{3,6}, Heath-Paynter D⁷, Stoové M^{1,2,8}

¹ Burnet Institute, Melbourne, Australia; ² School of Public Health and Preventive Medicine, Monash University, Melbourne, Australia; ³ The Kirby Institute, UNSW Sydney, Sydney, Australia; ⁴ School of Translational Medicine, Faculty of Medicine, Nursing and Health Sciences, Monash University, Melbourne, Australia; ⁵ Mid North Coast & Northern NSW Local Health Districts, NSW Health, Australia; ⁶ School of Population Health, UNSW Sydney, Sydney, Australia; ⁷ Health Equity Matters, Sydney, Australia; ⁸ Australian Research Centre in Sex, Health and Society, La Trobe University, Melbourne, Australia

Background: Increasing doxycycline post-exposure prophylaxis (doxyPEP) prescribing for STI prevention in Australia has occurred following national recommendations. However, longitudinal real-world data on use and adherence are limited.

Methods: DoxyPEP-GPS is a prospective cohort of individuals prescribed doxyPEP in general practice. Surveys at baseline and three-monthly over 12 months collected data on doxyPEP use, coverage of sex acts, and reasons for missed doses/discontinuation. Trends in use and coverage of sex acts were analysed using generalised estimating equations.

Results: From Jul-2024 to Sep-2025, 95 participants were enrolled (93 cisgender male, 2 non-binary), contributing 354 survey responses. At baseline, doxyPEP was commonly patient-initiated (75.8%). Most participants reported upcoming periods of increased STI risk (67.4%), with motivations for doxyPEP including STI prevention (94.7%) and peace of mind (63.2%). Concerns included antimicrobial resistance (74.7%) and side effects (40.0%). At follow-up, past 3-month doxyPEP use was high but slightly declined (OR=0.81 per timepoint, CI=0.59–1.12; p=0.21): 92.5% (74/80) at month 3, 90.9% (70/77) at month 6, 86.7% (52/60) at month 9, and 85.7% (36/42) at month 12. In contrast, the proportion reporting all/most casual sex acts covered increased from 71.6% to 92.1% (OR=1.77, CI=1.27–2.47; p=0.001). Among responses reporting no recent use (n=27), reasons included difficulty remembering to take doxyPEP (33.3%), side effects (33.3%), pill-fatigue (14.8%) and not having sex (11.1%). Among responses reporting recent use (n=232), reasons for missed/skipped doses included forgetting (36.7%), perceived low partner risk (22.0%), running out of doxyPEP (12.5%), and being away from home (7.8%).

Conclusions: While doxyPEP use remained high, the proportion reporting no recent use increased over time. In contrast, coverage of sex acts increased, suggesting more considered use among those continuing doxyPEP. Missed/skipped doses were driven by behavioural factors, access issues, and risk-based decision-making. Findings highlight the need for practical clinical guidance and support to optimise effective doxyPEP use.

Disclosure of Interest Statement:

MWT has received consulting fees and investigator-initiated research funding from Gilead Sciences Ltd.