Choice of antibiotics for prophylaxis of bacterial STIs among individuals currently self-sourcing

Authors

Manik Kohli ^{1, 2} David Reid ^{1, 3} Caisey V. Pulford ^{3, 4} Alison R. Howarth ^{1, 3} Jack Brown ^{1, 3} Hamish Mohammed ^{3, 4} Gwenda Hughes ^{3, 4} Catherine H Mercer ^{1, 3} John Saunders ^{1, 4}

Affiliations

 Institute for Global Health, University College London, London, UK
Central and North West London NHS Foundation Trust, London, UK
The National Institute for Health Research Health Protection Research Unit in Blood Borne and Sexually Transmitted Infections at University College London in partnership with UK Health Security Agency, London, UK
Placed Cofety, Health Constitute, CTIP and HIV Division. National Infection Constant.

4. Blood Safety, Hepatitis, STIs and HIV Division, National Infection Service, UK Health Security Agency, Colindale, UK

Corresponding Author: Manik Kohli

Institute for Global Health, University College London, 4th Floor, Mortimer Market Centre, off Capper Street, London, WC1E 6JB m.kohli@ucl.ac.uk

Contributors: MK carried out the analysis, and wrote the first draft. All other authors provided comments and edits. The original study design, data collection and data management were carried out by ARH, DR, CVP, GH, CHM and JS.

Funding: The original survey was funded by the National Institute for Health Research Health Protection Research Unit (NIHR HPRU) in Blood Borne and Sexually Transmitted Infections at University College London in partnership with UK Health Security Agency. Acknowledgements: The authors thank all the participants involved in this study.

We acknowledge members of the National Institute for Health Research Health Protection Research Unit (NIHR HPRU) in Blood Borne and Sexually Transmitted Infections (BBSTI) Steering Committee: Professor Caroline Sabin (HPRU Director), Dr John Saunders (UK HSA Lead), Professor Catherine Mercer, Professor Gwenda Hughes, Dr Hamish Mohammed, Professor Greta Rait, Dr Ruth Simmons, Professor William Rosenberg, Dr Tamyo Mbisa, Professor Rosalind Raine, Dr Sema Mandal, Dr Rosamund Yu, Dr Samreen Ijaz, Dr Fabiana Lorencatto, Dr Rachel Hunter, Dr Kirsty Foster and Dr Mamooma Tahir. The authors would like to thank Takudzwa Mukiwa and Ross Purves from Terrence Higgins Trust for their help with participant recruitment.

Competing interests: None declared

Word count: 300

As interest in antibiotic prophylaxis for bacterial STIs grows, there is a need to better understand the current landscape of antibiotic self-sourcing. STI prophylaxis is not currently recommended in routine practice: only two small studies demonstrated efficacy of pre-/post-exposure doxycycline prophylaxis for syphilis and chlamydia, and there are concerns about antimicrobial resistance (AMR).¹ However, 2-10% of HIV-PrEP users self-source antibiotics for STI prophylaxis.¹

During the COVID-19 pandemic, online surveys of MSM were carried out in the UK within the Reducing Inequalities and Improving Sexual Health (RiiSH-COVID) study.² The second survey (23 November - 12 December 2020) included questions on STI prophylaxis. The survey had 1,522 respondents, of which 1,520 completed the STI prophylaxis questions. The median age was 38 years (IQR 29-50), 96% were cis male, 82% identified as gay, and 71% were White British.

Overall, 20% (308/1,520) had heard of STI prophylaxis, 3.6% (55/1,520) had ever used prophylaxis, and 1.8% (28/1,520) had used prophylaxis in the preceding 12 months. HIV-negative respondents not using HIV-PrEP had lower reported STI prophylaxis use than both respondents with HIV [1.9% (18/933) vs. 6.9% (11/160); p<0.001] and HIV-PrEP users [1.9% (18/933) vs. 6.2% (26/421); p<0.001]. Respondents reporting STI prophylaxis use (n=55) were asked which antibiotic(s), being able to select more than one if appropriate: 56% reported using doxycycline, 18% azithromycin, 20% amoxicillin, 4% metronidazole, and 16% were unsure.

This analysis corroborates available estimates of STI prophylaxis use among MSM, and for the first time estimates use among HIV-negative people not using HIV-PrEP and people with HIV. Participants reported using antibiotics that lack evidence of effectiveness at preventing STIs, such as macrolides and penicillins. Driving further AMR through use of these is particularly concerning for the management of enteric STIs and non-sexually acquired infections. Practical guidance on STI prophylaxis to support patient-centred care is needed.

References

- 1. Grant JS, Stafylis C, Celum C, et al. Doxycycline Prophylaxis for Bacterial Sexually Transmitted Infections. *Clinical infectious diseases : an official publication of the Infectious Diseases Society of America* 2020;70(6):1247-53. doi: 10.1093/cid/ciz866
- 2. Howarth AR, Saunders J, Reid D, et al. "Stay at home": Exploring the impact of the COVID-19 public health response on sexual behaviour and health service use among men who have sex with men: findings from a large online survey in the United Kingdom. Sexually transmitted infections 2021 Published Online First: 20 September 2021. doi: 10.1136/sextrans-2021-055039