

RESEARCH LETTER

Use of doxycycline and other antibiotics to prevent STIs among men who have sex with men visiting sexual health clinics in the Netherlands

A clinical trial (ANRS IPERGAY) among 232 men who have sex with men (MSM) using HIV pre-exposure prophylaxis (HIV-PrEP) showed efficacy of postexposure prophylaxis with doxycycline in reducing chlamydia and syphilis.¹ A survey showed high interest (84%) in trying doxycycline prophylaxis for prevention of STIs among MSM in the USA.² Actual use has been estimated to be nearly 10% among MSM using HIV-PrEP in the UK³ and Australia.⁴ However, the use of doxycycline STI-prophylaxis is not recommended in UK guidelines because of risk for selection and dissemination of doxycycline-resistant strains.⁵ In the Netherlands and most European countries, doxycycline STI-prophylaxis is not prescribed by sexual health clinics and general practitioners. This study is the first estimate of STI-prophylaxis use among MSM in the Netherlands.

The staff of eight public health service STI clinics in the Netherlands was instructed to recruit MSM aged 16 years or older during their regular STI consultations for participation in an online questionnaire. Convenience sampling was used. The recruitment period was 3 months in 2018 for all participating STI clinics. The questionnaire included questions on drug use during sex (or 'chemsex'), sexual behaviour, HIV-PrEP use and antibiotic STI-prophylaxis use.

Descriptive analyses were used to provide estimates of antibiotic STI-prophylaxis use and characteristics of MSM using antibiotic STI-prophylaxis.

In total, 785 MSM were recruited of whom 321 completed the question on antibiotic STI-prophylaxis use. Participants (n=321) had a median age of 41 years (IQR: 29–53) and 63% had a higher educational level. The median number of sex partners was 6 (IQR: 4–9), and 12% was HIV positive. Chemsex was reported by 43%. Seven men (2.2%; 95% CI 1.1% to 4.4%) reported antibiotic STI-prophylaxis use; three men used azithromycin, two used doxycycline, one used ciprofloxacin and one did not report the specific antibiotic used. Four men used antibiotics at the time of sex, two when having symptoms and one used it daily. One man was HIV positive, one used HIV-PrEP and five did not use HIV-PrEP. The characteristics of the seven men reporting STI-prophylaxis use can be found in [table 1](#).

In conclusion, antibiotic STI-prophylaxis use is low among MSM visiting the STI clinic in the Netherlands, but its use is not limited to men using HIV-PrEP. We also show that doxycycline is not the only antibiotic used for STI-prophylaxis, as azithromycin and ciprofloxacin were also used. Although trials¹⁶ have suggested that antibiotic STI-prophylaxis could be effective as a short-term strategy for high-risk MSM with a high incidence of STIs, the potential harm in terms of antimicrobial resistance should be further assessed. Nevertheless, MSM are already using antibiotic STI-prophylaxis themselves. Monitoring of this informal STI-prophylaxis use is important for optimal patient management, especially in the sexual health clinic context. Previous studies assessing

STI-prophylaxis use focused on the use of doxycycline² among MSM using HIV-PrEP only.^{2–3} Our study shows that it might be useful to broaden monitoring on STI-prophylaxis use to a wide variety of antibiotics and to MSM who are not using HIV-PrEP as well.

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Handling editor Anna Maria Geretti

Acknowledgements We would like to thank the staff of the participating STI clinics for the recruitment of our participants, and in particular Marga Smit, Mandy Sanders, Mariska Muylers, Luuk Levels, Karlijn Kampman, Sophie Kuizenga-Wessel, Marie-Sophie Mutsaers, Nienke Bakker, Helmie van der Meijden, Deontee Shilue and Harriette van Buel.

Contributors All authors designed the study. YJE and GAFSL collected and managed the data. YJE performed the analysis and drafted the paper. All authors contributed to data interpretation, writing and approved the final manuscript.

Funding The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

Competing interests None declared.

Patient consent for publication Not required.

Provenance and peer review Not commissioned; internally peer reviewed.

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Table 1 Characteristics of MSM visiting the STI clinic who used antibiotic STI-prophylaxis

Patient	Number of sex partners <6 months	Chemsex*	HIV positive	HIV-PrEP use	Intention to use HIV-PrEP	Antibiotic used STI-prophylaxis	Mode of use
1	6	No	No	No	No	Azithromycin	In case of symptoms
2	11	No	No	No	Yes	Azithromycin	In case of symptoms
3	5	No	No	No	Yes	Azithromycin	Daily
4	10	No	No	No	Yes	Ciprofloxacin	Around sex
5	10	Yes	No	Yes	NA	Doxycycline	Around sex
6	15	Yes	Yes	NA	NA	Doxycycline	Around sex
7	1	No	No	No	No	Unknown	Around sex
Total	Median: 10	29%	14%	14%	43%	NA	NA

Median age of patients was 40 years (IQR 37–43; range 35–57 years). All patients were higher educated.

*Chemsex: the use of drugs during sex. Drugs included in this definition were crystal meth, cocaine, designer drugs (2-CB, 3 MMC, 4-FA and 4-MEC), GHB, GBL, ketamine, MDMA, mephedrone, speed and XTC.

HIV-PrEP, HIV pre-exposure prophylaxis; MSM, men who have sex with men; NA, Not applicable.

To cite Evers YJ, van Liere GAFS, Dukers-Muijters NHTM, *et al.* *Sex Transm Infect* 2020;**96**:550–551.

Received 14 October 2019
Accepted 12 December 2019
Published Online First 26 December 2019

Sex Transm Infect 2020;**96**:550–551.
doi:10.1136/sextrans-2019-054325

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