**Research news in clinical context**

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**Published in STI, the Editor’s Choice: Factors associated with sexually transmitted shigella in MSM that inform targeted control strategies**

Sexually transmitted shigella among men who have sex with men (MSM), including infections with antimicrobial-resistant strains, is an increasing public health concern. This systematic review of 13 studies (n=547 participants) aimed to identify demographic and behavioural characteristics associated with sexually transmitted shigella among MSM. Factors associated with a diagnosis included living in an urban area, living with HIV, using HIV pre-exposure prophylaxis (PrEP), a past or current STI diagnosis, engaging in chemsex and recreational drug use, and various parameters related to sexual behaviours including using social media and apps to meet sex partners, attending sex-on-site venues, reporting multiple non-regular sex partners and group sex, and reporting oral-anal sexual contact. Targeted public health interventions which consider associated behavioural and demographic factors are needed to reduce shigella outbreaks among MSM.

Siddiq M, O’Flanagan H, Richardson D, *et al.* Factors associated with sexually transmitted shigella in men who have sex with men: A systematic review. *Sex Transm Infect* 2022;Epub ahead of print.doi:10.1136/sextrans-2022-055583

**Saliva and air samples can yield infectious Mpox virus but their role in transmission is uncertain**

Transmission of Mpox occurs mainly through direct contact with lesions or body fluids; the role of respiratory transmission is debated (1). Samples of saliva, droplets exhaled into a mask, and aerosols captured by air filtration were collected within the first week of infection from 44 men with Mpox who presented with skin lesions. Viral DNA was identified by quantitative PCR in 85% (35/41) of saliva samples, and 67% (22/33) of samples yielded infectious virus by cell culture. From droplets, viral DNA was identified in 71% (32/45) of samples, with 2 samples yielding infectious virus. Viral DNA was also identified in 64% (27/42) of aerosols collected from medical consultation rooms, despite patients wearing an FFP2 mask, but no samples yielded infectious virus. Further studies are needed to evaluate if Mpox virus present in saliva, droplets, and aerosols can be efficiently transmitted.

Hernaez B, Muñoz-Gómez A, Sanchiz A, *et al.* Monitoring monkeypox virus in saliva and air samples in Spain: A cross-sectional study. *Lancet Microbe* 2023;4:e21-8.

**Intimate partner violence linked to HIV acquisition risk among women across sub-Saharan Africa**

Previous research has suggested a link between intimate partner violence and HIV acquisition, although findings are variable (2). A retrospective study using pooled data from nationally representative cross-sectional surveys was conducted across 30 countries in Sub-Saharan Africa in 2000-2020. Among 280259 ever-partnered women aged 15-64 years, 59456 (21.2%) reported intimate physical and/or sexual partner violence in the past year. Reporting violence was associated with an increased likelihood of recent HIV infection [adjusted prevalence ratio (aPR) 3.22; 95% CI 1.51-6.85]. Among women living with HIV, those who reported violence had a reduced likelihood of achieving virological suppression on antiretroviral therapy (aPR 0.91; 95% CI 0.84-0.98). Preventing and addressing intimate partner violence is a crucial component of HIV control strategies.

Kuchukhidze S, Panagiotoglou D, Boily M-C, *et al.* The effects of intimate partner violence on women’s risk of HIV acquisition and engagement in the HIV treatment and care cascade: A pooled analysis of nationally representative surveys in sub-Saharan Africa. *Lancet HIV* 2022;Epub ahead of print.doi:10.1016/S2352-3018(22)00305-8

**Recent azithromycin exposure for STI treatment is associated with detection of azithromycin-resistant *Neisseria gonorrhoeae* (NG)**

Investigators in Seattle analysed data from 2155 patients who attended sexual health services (SHS) in 2012-2019 with culture-positive NG at ≥1 anatomic site. Azithromycin (AZM) resistance was detected in 156/2828 (6%) NG episodes. Detection of resistance was associated with a history of SHS-prescribed AZM treatment in the previous month [adjusted odd ratio (aOR) 6.76; 95% CI 1.76-25.90], but not with older SHS-prescribed AZM treatment. AZM minimum inhibitory concentrations were also associated with the number of AZM prescriptions within the past month but not with the total number of prescriptions in the previous year. Most cases of AZM resistance (n=115, 74%) however did not have a record of SHS-prescribed AZM in the previous year, suggesting transmission of clonal resistant NG strains and the role of non-STI related AZM use in driving NG resistance.

Rowlinson E, Soge O, Hughes J, *et al*. Prior exposure to azithromycin and azithromycin resistance among persons diagnosed with *Neisseria gonorrhoeae* infection at a sexual health clinic: 2012-2019. *Clin Infect Dis* 2022;ciac682:Epub ahead of print.doi:10.1093/cid/ciac682

**Switching from tenofovir alafenamide (TAF) to tenofovir disoproxil fumarate (TDF) is associated with weight loss and decreased lipid levels among people with HIV receiving dolutegravir (DTG) and emtricitabine (FTC)**

The ADVANCE trial randomised 1053 patients in Johannesburg to first-line TAF/FTC+DTG, TDF/FTC+DTG, or TDF/FTC/efavirenz (EFV). Over 192 weeks, the regimens were virologically non-inferior, but the TAF/FTC+DTG arm showed marked weight gain (median +8.9 kg) (3). Investigators assessed weight and metabolic profiles of 172 participants (62% female) who switched to open-label TDF/3TC/DTG after 192 weeks. Over 52 weeks, rates of HIV RNA suppression remained high (161/166, 97%). Switching from TAF/FTC+DTG (n=70) was associated with weight reduction among women (median −1.6 kg, p=0.013). Switching from TDF/FTC/EFV (n=31) was associated with weight gain among men (median +2.3kg, p=0.046). Switching from TAF/FTC+DTG or TDF/FTC/EFV also led to improvements in metabolic parameters, including significant reductions in total cholesterol, LDL, triglycerides, and HbA1C. Switching from TDF/FTC+DTG (n=71) led to no weight changes; interestingly, patients experienced a significant increase in total cholesterol, HDL, and systolic blood pressure. Larger studies are needed to confirm these findings.

Bosch B, Akpomiemie G, Chandiwana G, *et al.* Weight and metabolic changes after switching from tenofovir alafenamide (TAF)/emtricitabine (FTC)+dolutegravir (DTG), tenofovir disoproxil fumarate (TDF)/FTC + DTG, and TDF/FTC/efavirenz (EFV) to TDF/lamivudine (3TC)/DTG. *Clin Infect Dis* 2022;ciac949,Epub ahead of print.doi:10.1093/cid/ciac949

**An *Escherichia coli*-produced virus-like-particle** **human papillomavirus (HPV) vaccine is safe and effective in women**

Commercially available HPV vaccines are made of purified virus-like particles (VLPs) containing the major viral capsid protein L1 prepared in eukaryotic cells*.* Less expensive expression systems are being researched, including *Escherichia coli* (4). A Phase 3, double-blind, randomised, controlled trial of an *E coli*-produced bivalent HPV 16/18 vaccine was conducted in China among women aged 18–45 years with intact cervix and 1–4 lifetime sexual partners. Overall, 3689 women received HPV vaccination (3 doses) and 3683 received hepatitis E vaccination as controls. After 66 months, vaccine efficacy was 100% (95% CI 67.2-100) for preventing high-grade genital lesions (CIN2+, VIN2+, VaIN2+) and 97.3% (95% CI 89.9-99.7) for preventing persistent infections. Serious adverse event were infrequent and comparable in vaccine and control groups. Findings provide proof of concept that *E coli*-produced vaccines offer an alternative to available HPV vaccines. Development of multivalent vaccines is needed.

Zhao FH, Wu T, Hu YM, *et al.* Efficacy, safety, and immunogenicity of an Escherichia coli-produced Human Papillomavirus (16 and 18) L1 virus-like-particle vaccine: End-of-study analysis of a phase 3, double-blind, randomised, controlled trial. *Lancet Infect Dis* 2022;22:1756-1768.

**References**

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2. Durevall D, Lindskog A. Intimate partner violence and HIV in ten sub-Saharan African countries: What do the Demographic and Health Surveys tell us? *Lancet Glob Health* 2015;3:e34-e43.
3. Venter WDF, Bosch B, Sokhela S, *et al.* Final week 192 results from the ADVANCE trial: first-line TAF/FTC/DTG, TDF/FTC/DTG versus TDF/FTC/EFV—weight gain. AIDS 2022. Montreal, Canada, 29 Jul – 2 Aug 2022. Abstract PELBB01.
4. Gu Y, Wei M, Wang D, *et al.* Characterization of an *Escherichia* *coli*-derived human papillomavirus type 16 and 18 bivalent vaccine. *Vaccine* 2017:35:4637-4645.