COVERAGE OF SEX EVENTS WITH HIV PRE-EXPOSURE PROPHYLAXIS (PREP) DURING EPIC-NSW STUDY FOLLOW-UP

Bavinton BR¹, Vaccher S¹, Amin J^{1,2}, Guy R¹, Jin F¹, Selvey C³, Zablotska-Manos IB⁴, Holden J³, Price K⁵, Yeung B¹, Levitt G¹, Ogilvie E¹, McNulty A⁶, Smith D⁷, Cooper DA¹, Grulich AE¹, for the Expanded PrEP Implementation in Communities New South Wales (EPIC-NSW) research group

¹ The Kirby Institute, UNSW Sydney, ² Department of Health Systems and Populations, Macquarie University, ³ Ministry of Health, NSW Government, ⁴ Westmead Clinical School, University of Sydney, ⁵ ACON, ⁶ Sydney Sexual Health Centre, ⁷ North Coast HIV/Sexual Health Services

Background:

Pre-exposure prophylaxis (PrEP) is highly effective at preventing HIV. However, sufficient drug concentrations are required at the time of sexual exposure to prevent transmission. We investigated PrEP coverage of sex events among gay men enrolled in EPIC-NSW, an implementation study of daily PrEP.

Methods:

From March 2016, individuals at high-risk of HIV were enrolled in the EPIC-NSW study. At baseline, then quarterly thereafter, participants were invited to complete an optional online behavioural survey about PrEP use and condomless anal intercourse (CLAI) during the last week. We examined the association between "adequate" PrEP coverage (defined as taking at least four PrEP pills during that week) and reporting CLAI during that week. We used chi-squared tests for comparisons between groups.

Results:

By 31 October 2016, 3,700 participants had enrolled in EPIC-NSW, of whom 3,533 (95.5%) identified as gay. Of these, 2,510 (71.0%) had completed at least one behavioural survey (total of 7,005 follow-up surveys). No CLAI was reported in 2,631 weeks (37.6%) and CLAI was reported in 4,374 weeks (62.4%, "CLAI-weeks"). During CLAI-weeks, coverage was adequate in 93.6% of weeks (7 PrEP pills taken in 3,766 weeks (86.1%) and 4-6 pills taken in 327 weeks (7.5%)), and inadequate in 281 weeks (6.4%, with 0 pills taken in 257 weeks (5.9%)). During inadequate coverage weeks, CLAI with a partner of unknown HIV status, or an HIV-positive partner with a detectable viral load was less likely than in adequate cover weeks (10.8% versus 21.8%, p<0.001). Overall, there were only 60 weeks (0.9% of follow-up) in which PrEP coverage was inadequate and HIV risk high.

Conclusions:

Over 90% of CLAI-weeks were covered by PrEP. Men who were not adequately covered by PrEP were less likely to report high-risk CLAI, highlighting that gay men make sophisticated risk assessments informing their risk behaviour.

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