

RESEARCH LETTER

Does providing laboratory confirmed STI results impact uptake of HIV pre-exposure prophylaxis (PrEP) uptake among Kenyan adolescents girls and young women? A descriptive analysis

In 2018, one-third of incident adult HIV infections in Kenya occurred among adolescent girls and young women (AGYW) aged 15–24 years.^{1 2} Pre-exposure prophylaxis (PrEP) is approved as part of the national HIV prevention interventions.^{3 4} AGYW have the lowest uptake of PrEP coupled with high discontinuation rates.^{5–7}

Sexually transmitted infections are known to increase the risk of HIV acquisition.⁸ Prevalence of STIs in sexually active AGYW is high.⁹ This drives health seeking behaviour in this population and is a good opportunity to provide PrEP at point of care.

We hypothesised that availing STI results would augment PrEP uptake among AGYW.

Participants were followed quarterly with STI testing for *Neisseria gonorrhoeae*, *Chlamydia trachomatis* and *Trichomonas vaginalis*. From January 2018 to December 2018, we screened for PrEP eligibility with a validated HIV risk assessment tool (figure 1) which asks seven questions to assess risk and recommends PrEP for any 'Yes' answers. PrEP uptake was defined as the number of girls initiating PrEP among those offered PrEP.¹⁰ χ^2 testing was used to compare PrEP uptake with other variables.

Overall, 220 participants were assessed. PrEP knowledge was high, 179 AGYW (81.4%) reported having heard of PrEP but only 15/220 (6.8%) reported ever considering using PrEP. One hundred and sixty-seven girls (76%) reported sexual debut and were assessed for HIV risk. Of 167 sexually active participants, 119 (71.3%) reported inconsistent condom use and 20 (12%) had a confirmed STI. All at-risk participants were offered PrEP on site; 9 (5.4%) accepted. Regardless of high HIV risk, 158 (94.6%) participants did not perceive themselves at risk and declined PrEP; 90 (57%) of the PrEP decliners reported inconsistent condom use in the 3 months prior to HIV risk assessment.

Figure 1 NASCOP PrEP Rapid Assessment Screening Tool.



MINISTRY OF HEALTH
NATIONAL AIDS & STIs CONTROL PROGRAM

PrEP Rapid Assessment Screening Tool (RAST)

Age: _____ Sex: _____ Date: _____

- What is your HIV status? (if response is positive discontinue assessment else administer all questions)
 - Negative Positive Unknown Unwilling to disclose
- What is the HIV status of your sexual partner(s)?
 - Negative Positive Unknown

In the past 6 months

- Have you had sex without a condom with a partner(s) of unknown or positive HIV status?
 - No Yes
- Have you engaged in sex in exchange of money or other favors?
 - No Yes
- Have you been diagnosed with or treated for an STI?
 - No Yes
- Have you shared needles while engaging in intravenous drug use?
 - No Yes
- Have you been forced to have sex against your will or physically assaulted including assault by your sexual partner(s)?
 - No Yes
- Have you used post exposure prophylaxis (PEP) two times or more?
 - No Yes

Refer the client for further PrEP assessment at the health facility if:

HIV status of the sexual partner(s) is Positive or Unknown

Any Yes to the screening questions

Remarks

A higher proportion of AGYW with an STI diagnosis accepted PrEP 4/20 (20%) compared with AGYW who were eligible for PrEP but without an STI diagnosis 5/147 (3.4%).

There is a studied effort to evaluate PrEP delivery to AGYW in sub-Saharan Africa with ongoing demonstration projects: daily adherence reminders (m-health option), conditional cash transfers, bundling with reproductive healthcare and use of real-time electronic monitoring. Stigma remains a challenge, as many are not willing to admit that they may be at risk of HIV. Our work had some limitations. PrEP rollout was quite new at the time of this study, and AGYW may not have felt comfortable as early initiators. Participants took HIV tests quarterly and at this point most had received multiple negative HIV tests, which may have reinforced their self-perception of being low risk for HIV. Finally, the routine STI testing offered is unavailable in most settings, which may have limited understanding of

the implication of an STI. In conclusion, we observed improved PrEP uptake in a group of AGYW when an STI diagnosis was made. Concrete evidence of risk, in the form of an STI diagnosis, might be an important factor in improving PrEP uptake.

Lynda Myra Oluoch ,¹ Alison Roxby,² Nelly Mugo,^{1,2} Anna Wald,^{3,4} Kenneth Ngure,⁵ Stacy Selke,² Bhavna Chohan,² Catherine Kiptinness,¹ Kenneth Tapia,² Murugi Micheni,¹ Stephen Gakuo Maina,¹ Edinah Casmir¹

¹Centre for Clinical Research, Kenya Medical Research Institute, Nairobi, Kenya

²Department of Global Health, University of Washington, Seattle, Washington, USA

³Department of Medicine, University of Washington, Seattle, Washington, USA

⁴Vaccine and Infectious Disease Division, Fred Hutchinson Cancer Research Center, Seattle, Washington, USA

⁵Department of Community Health, Jomo Kenyatta University of Agriculture and Technology, Nairobi, Kenya

Correspondence to Dr Lynda Myra Oluoch, Clinic, Kenya Medical Research Institute, Nairobi 0200, Kenya; oluochlynda8@gmail.com

Handling editor Anna Maria Geretti

Contributors LMO conceptualised the idea for the abstract and participated in its design and coordination together with AR, NM, KN, CK and AW to draft the manuscript. SS, KT and SGM performed the data statistical analysis. MM, EC and LMO were involved in the data collection. BC participated in the lab analysis. All authors read and approved the final manuscript.

Funding This research was funded by R01 HD091996-01 (ACR) from NICHD, by P01 AI 030731-25 (Project 2) (AW) and by the University of Washington/Fred Hutchinson Cancer Research Center, Center for AIDS Research (CFAR), AI027757. We thank the participants. We thank CROI for scholarship funding that enabled us to present this data at the CROI Seattle 2019 conference. Study data were collected and managed using REDCap electronic data capture tools hosted at the University of Washington funded by UL1 TR002319, KL2 TR002317 and TL1 TR002318 from NCATS/NIH.

Disclaimer The funders had no role in study design, data collection and analysis or preparation of the manuscript. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health.

Competing interests None declared.

Patient consent for publication Not required.

Provenance and peer review Not commissioned; externally peer reviewed.

© Author(s) (or their employer(s)) 2020. No commercial re-use. See rights and permissions. Published by BMJ.



To cite Oluoch LM, Roxby A, Mugo N, *et al.* *Sex Transm Infect* Epub ahead of print: [please include Day Month Year]. doi:10.1136/sextrans-2020-054637

Received 14 June 2020

Revised 10 August 2020

Accepted 16 August 2020

Sex Transm Infect 2020;**0**:1–2.

doi:10.1136/sextrans-2020-054637

ORCID iD

Lynda Myra Oluoch <http://orcid.org/0000-0002-3105-8892>

REFERENCES

- 1 National Aids Control Council (NACC). Hiv estimates report, 2018. Available: <https://nacc.or.ke/wp-content/uploads/2018/11/HIV-estimates-report-Kenya-20182.pdf>
- 2 Kenya Population –Based HIV Impact Assessment (KENPHIA)REPORT, 2018. Available: <https://www.nascop.or.ke/kenphia-report/>
- 3 Kenya National Bureau of Statistics. 2019 Kenya population and housing census. volume III distribution of population by age and sex socio-economic characteristics. Available: <https://www.knbs.or.ke/?wpdmp=2019-kenya-population-and-housing-census-volume-iii-distribution-of-population-by-age-sex-and-administrative-units>
- 4 Avert. Report on young people HIV and AIDS, 2016. Available: <https://www.avert.org/professionals/hiv-social-issues/key-affected-populations/young-people>
- 5 Baeten JM, Donnell D, Ndase P, *et al.* Antiretroviral prophylaxis for HIV prevention in heterosexual men and women. *N Engl J Med* 2012;367:399–410.
- 6 AVAC. Kenya-PrEP watch, 2019. Available: <https://www.prepwatch.org/country/kenya/>
- 7 Mugwanya KK, Pintye J, Kinuthia J, *et al.* Integrating preexposure prophylaxis delivery in routine family planning clinics: a feasibility programmatic evaluation in Kenya. *PLoS Med* 2019;16:e1002885.
- 8 Corneli A, Wang M, Agot K, *et al.* Perception of HIV risk and adherence to a daily, investigational pill for HIV prevention in FEM-PrEP. *J Acquir Immune Defic Syndr* 2014;67:555–63.
- 9 PrEP Watch. Options market intelligence report: Kenya. key insights and communications implications for oral PrEP demand creation among adolescent girls and young women in Kenya, 2018. Available: https://www.prepwatch.org/wp-content/uploads/2018/05/OPTIONS_AGYW_April2018.pdf
- 10 Cohen MS, Council OD, Chen JS. Sexually transmitted infections and HIV in the era of antiretroviral treatment and prevention: the biologic basis for epidemiologic synergy. *J Int AIDS Soc* 2019;22 Suppl 6:e25355.