YA TSIE (THE BOTSWANA COMBINATION PREVENTION PROJECT)

Evidence-Based for the Structural Intervention Chapter
Evidence-Based for the Linking and Retention in HIV Care Chapter

POPULATION
- Community residents between the ages of 16 and 64 years

KEY INTERVENTION EFFECTS
- Reduced HIV incidence
- Increased viral suppression

BRIEF DESCRIPTION

Ya Tsie is a community-level intervention to prevent new HIV infections through increasing the percentage of persons with HIV (PWH) who know their status, are on antiretroviral treatment (ART), and are virally suppressed. Intervention activities include:

- HIV testing to identify PWH
- Case finding to identify known persons with HIV not on ART
- Enhanced linkage to care for newly identified PWH or not actively on ART (re-engagement in care)
- Increased ART coverage
- Support provided by peer counselors for PWH remaining on treatment and virally suppressed
- Improving data management and systems: tracking of appointments, medication pick-ups, and laboratory results

DURATION: 29 months
SETTING: Rural or peri-urban communities in Botswana, Ministry of Health (MoH) Clinics
STUDY YEARS: 2013 – 2018
STUDY DESIGN: Randomized controlled trial
DELIVERERS: MoH medical staff, Lay/peer counselors
DELIVERY METHODS: Appointment schedule assistance, Community outreach and support, Counseling, Home-based and mobile/outreach HIV testing, Referrals

STUDY SAMPLE

The baseline study sample of 8,974 patients was characterized by the following:

- 60% female persons, 40% male persons

STRUCTURAL COMPONENTS

Access – HIV services and treatment
- Increased access to HIV testing by providing it in the community and clinic

Capacity building – Hiring and training staff
- Placed additional lay counselors/peer counselors for HIV testing and linkage to care support in communities and clinics, and emphasized importance of routine testing and early and consistent treatment for PWH

- Trained clinic staff on: Rapid ART start and importance of early initiation of ART, immediate follow up of missed appointments/drug pick-ups, peer counselors' roles in increasing linkage, retention, and reengagement in care

Physical Structure – Services provided in non-traditional settings, improved data which improved services and outcomes

- HIV testing offered via home-based and mobile testing venues

Social Determinants of Health – Survival, transportation, and work issues

- Transportation support to initial clinic visits provided to PWH unable to get to clinic

KEY INTERVENTION EFFECTS (see **Primary Study** for all outcomes)

- Intervention communities had a significantly greater increase in percentage of PWH (regardless of previous HIV diagnosis or ART status) with an HIV-1 RNA level of <400 copies per mLs at study end (29 months) (absolute increase of 18%, from 70% to 88%) than standard-of-care communities (absolute increase of 8%, from 75% to 83%) (risk ratio = 1.12; 95% CI: 1.09–1.16).
- Incidence of HIV infection was 30% lower in intervention communities compared to standard-of-care communities (hazards model adjusted incidence ratio = 0.70, 95% CI: 0.50–0.98).*

*Adjusted for sex, age, marital status, education, sexual partners in last 12 months and alcohol consumption in past month and alcohol use during most recent sexual encounter.

CONSIDERATIONS

- The proportion of PWH with an HIV diagnosis was significantly higher at study end (29 months) in the intervention communities (absolute increase of 9% to 93%) compared to standard-of-care communities (absolute increase of 2% to 88%, prevalence ratio [PR] = 1.08, 95% CI: 1.02–1.14). †
- Population levels of ART increased from baseline to study end (29 months) in both intervention and standard- of-care communities, with greater increases in intervention communities compared to standard-of-care communities (ART PR = 1.12, 95% CI: 1.07–1.17). †
- Population levels of viral suppression increased from baseline to study end (29 months) in both intervention and standard-of-care communities with a greater increase observed in intervention communities compared to the standard-of-care communities (PR = 1.13, CI:1.09–1.17). †

†Wirth et al (2020), adjusted for baseline differences

ADVERSE EVENTS

- The author did not report adverse events.

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PRIMARY STUDY

Makhema, J., Wirth, K. E., Pretorius Holme, M., Gaolathe, T., Mmalane, M., Kadima, E., Chakalisa, U., Bennett, K., Leidner, J., Manyake, K., Mbikiwa, A. M., Simon, S. V., Letlhogile, R., Mukokomani, K., van Widenfelt, E., Moyo, S., Lebelonyane, R., Alwano, M. G., Powis, K. M., . . . Lockman, S. (2019). Universal testing, expanded treatment, and incidence of HIV infection in Botswana. *New England Journal of Medicine*, *381*(3), 230-242. doi: 10.1056/NEJMoa1812281

ADDITIONAL STUDY

Wirth, K. E., Gaolathe, T., Pretorius Holme, M., Mmalane, M., Kadima, E., Chakalisa, U., Manyake, K., Matildah Mbikiwa, A., Simon, S. V., Letlhogile, R., Mukokomani, K., van Widenfelt, E., Moyo, S., Bennett, K., Leidner, J., Powis, K. M., Lebelonyane, R., Alwano, M. G., . . . Tchetgen Tchetgen, E. J. (2020). Population uptake of HIV testing, treatment, viral suppression, and male circumcision following a community-based intervention in Botswana (Ya Tsie/BCPP): A cluster-randomised trial. *The Lancet HIV*, *7*(6), e422-e433. doi: 10.1016/S2352-3018(20)30103-X

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