NIH Funded Research to Better Understand PrEP Use among Adolescent Girls and Young Women in Sub-Saharan Africa

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CFAR Antiretrovirals for Prevention (AFP) Working Group
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Challenges to Preventing HIV Among Adolescent Girls and Young Women in Sub-Saharan Africa

- Adherence
- Risk compensation
- Stigma
- Ethical and legal issues

PrEP for youth

- Reduce risk of HIV infection
- Provide autonomy
- Can be used in a period of risk
- Potential impact in HIV epidemic

- Gender and race disparities
- Cultural and regional differences
- Cost-effectiveness
- Training providers acceptability

Concerns
Augments in favor
Issues to be better addressed
NIH Request for Applications (RFA)

- Understanding and Addressing the Multi-level Influences on Uptake and Adherence to HIV Prevention Strategies among Adolescent Girls and Young Women in Sub-Saharan Africa the PrEP Cascade
- Sponsored by NIMH, NICHD, and Fogarty
  - RFA-MH-17-550, RFA-MH-17-555 & RFA-MH-17-560
  - RFA = dedicated, set aside funds
  - Supported R01, R34, and R21 applications
    - R01 = large projects
    - R34 = developmental intervention projects
    - R21 = innovative developmental projects
RFA Goals

• Called for research applications to:
  • Enhance our understanding of the multi-level factors that influence HIV prevention strategy use among adolescent girls and young women (AGYW)
  • Develop and test novel interventions to address these factors and enhance the uptake and adherence to HIV prevention strategies among AGYW in sub-Saharan Africa

Liu, IAPAC 2012
RFA Timeline and Outcomes

- Applications due December 2016
  - 44 applications received
- Peer review March 2017
- Advisory council reviews May 2017
- Awards made summer 2017
  - 11 awards made
RFA Awarded Projects: Type and Funder

- R34 pilot projects, 2 awards
- R21 developmental projects, 2 awards
- R01 large projects, 7 awards

- NIMH: 6 awards
- NICHD: 4 awards
- Fogarty: 1 award
Research location for awarded projects

- Kenya, 4
- South Africa, 4
- Tanzania, 1
- Uganda, 1
- Zimbabwe, 1
Sheree Schwartz, R21TW010897

“Multi-level determinants of uptake and adherence to a novel women-empowered HIV prevention strategy”

• Aim 1: Understand the multi-level (individual, relationship and community) determinants of uptake and adherence to each of the steps of the novel AGYW-empowered HIV prevention strategy via a mixed methods approach

• Aim 2: Compare the effects of estimated HIV acquisition risk vs. perceived HIV risk on AGYW delivery of HIV self-tests to partners and PrEP uptake
Aim 1: Identify venue-based social networks of adolescent girls, aged 15-19, in Dar es Salaam

Aim 2: Assess the acceptability of a network approach that seeks to change norms for HIV risk behaviors and IPV, while enhancing cohesion within girls’ networks, by piloting approaches, messages and communication channels with girls
Rachel King, R34MH114523

“Improving uptake and adherence to HIV prevention services with PrEP, HIV self-testing and adherence support for very high risk HIV-negative young women aged 15-24 in Kampala, Uganda”

• **Concept:** to develop and pilot test a comprehensive intervention including PrEP and HIV self-testing for young sex workers in Kampala, Uganda

• **Aim 1:** Formative research to better understand the social and sexual networks of young sex workers

• **Aim 2:** Develop and test an intervention to increase uptake and adherence to PrEP and HIV self-testing for young sex workers

• **Aim 3:** Translate lessons learned from the pilot into the design of a larger RCT
PRELIMINARY WORK

• Obtained ethical approvals
• Staff recruited
• Instruments designed
• Formative research data collection completed

PILOTTRIAL

• Enrolment completed (n=60) in Sept 2019 after screening 78 participants
• 34 participants have cumulatively been enrolled on PrEP, 4 have stopped PrEP
• 18 out of 24 participants expected for second month PrEP refill, have returned
• 10/15 expected for third month refill have returned
• 22 participants have completed group sessions and 16 have completed CBT
“Targeted interventions to address the multi-level effects of gender-based violence on PrEP uptake and adherence among adolescent girls and young women in Kenya”

- **Aim 1**: Characterize patterns of PrEP uptake and adherence among young gender based violence survivors and to understand their unique barriers and facilitators to PrEP use
- **Aim 2**: Develop and pre-test an intervention that addresses multi-level GBV-related barriers to PrEP use among AGYW
- **Specific Aim 3**: To implement and assess the feasibility, safety, and preliminary effects of the resulting intervention through a pilot cluster RCT with 100 AGYW GBV survivors at four PrEP delivery sites
Study Design

6 Safe Spaces engaged in PrEP delivery
3 pairs matched on geographic, sociodemographic, and Safe Space characteristics

Randomize

3 Intervention Safe Spaces
3 Control Safe Spaces

Enroll 100 AGYW (50 per arm)
Baseline data collection (surveys)

Intervention:
- Community-level PrEP sensitization for men
- Buddy Day event for couples-level PrEP sensitization
- PrEP support clubs

Standard of care

Ongoing reporting of GBV; 3-month safety monitoring visit
Wisepill for participants using PrEP

6 months: Final data collection (survey, IDIs, and focus group)
Assess feasibility, acceptability & safety, including GBV recurrence
Assess PrEP uptake, adherence, and persistence
### Table 1: Screening and Enrollment

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<td></td>
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<tr>
<td>Duration of Accrual Period (Days)</td>
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<tr>
<td>Number Screened</td>
<td>164</td>
</tr>
<tr>
<td>Enrolled</td>
<td>103</td>
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<tr>
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<td>Reasons for Non-enrolment</td>
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<tr>
<td>Not eligible for PrEP</td>
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<tr>
<td>Not interested in PrEP</td>
<td>29</td>
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<tr>
<td>Not willing/able to comply with study requirements</td>
<td>15</td>
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<tr>
<td>HIV-positive (self-report)</td>
<td>11</td>
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<tr>
<td>Not able/willing to provide consent</td>
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“PrEP for Young South African Women: Evaluating Uptake by Risk Screening or a Decision Support Tool and Scaled Adherence Support Using a SMART Design”

- **Aim 1**: Test whether use of a patient-facing decision support tool in addition to a provider-administered risk score positively influences PrEP initiation compared to use of a risk score alone.

- **Aim 2**: Test, using SMART design, a stepped model of scalable adherence support strategies in South African young women who initiate PrEP.
- AGYW at public clinic in Johannesburg (Jeppestown) randomized to tablet-based My PrEP decision support tool or general health site
- Assess PrEP uptake after 3 months by arm
- 110 AGYW enrolled end of Sept
- Plan to expand to 200 AGYW in PrEP delivery clinics in Johannesburg in collaboration with ANOVA
Update on PrEP SMART (Aim 2)

- 78 enrolled at Ward 21 clinic in Johannesburg (target 300)
- WhatsApp clubs are active, 2 way SMS response rate is excellent
- Will change from drug level feedback based on DBS to urine POC (M. Ghandi, collaborator)
  - Will provide an evaluation of POC assay for recent adherence based on urine tenofovir assay
  - Lower cost, simpler to implement than DBS
“Multi-level behavioral economics and community psychology approaches to strengthen HIV prevention cascades in adolescent girls and young women in East Zimbabwe”

- **Aim 1**: Use the novel framework of HIV prevention cascades to identify drivers of risks and bottlenecks in HIV prevention for AGYW
- **Aim 2**: Use small-scale randomized experiments to pre-test the impact, feasibility, acceptability and cost of behavioral economics and community psychology interventions to strengthen HIV prevention
- **Aim 3**: Estimate the population-level impact and cost-effectiveness if interventions were scaled-up
VMMC: 20-24 years

Prio. pop: Males, 20-24 years, HIV-negative, including not sexually active

Prevention method: VMMC

<table>
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<tr>
<th>Priority</th>
<th>Motivation</th>
<th>Access</th>
<th>Eff. use</th>
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<td>N=444</td>
<td>n=264</td>
<td>n=224</td>
<td>n=118</td>
</tr>
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</table>

%
“Maximizing combination HIV prevention, uptake and retention by adolescent girls and young women”

- **Aim 1**: Quantify how multiple levels of social dynamics interact to predict uptake of DREAMS components
- **Aim 2**: Elucidate how individuals’ life-course transitions and exposure to DREAMS affect retention and adherence to HIV care and prevention
- **Aim 3**: Ascertain whether family- and peer-network strategies improve uptake and adherence to combination prevention interventions by young people
No. services received in last 12 months: by age & invitation to participate in DREAMS (AGYW cohorts)

High proportion of AGYW invited to participate in DREAMS have accessed ≥3 services

Gourlay, Mthiyane, & Birdthistle submitted
HIV prevention cascade for PrEP eligible adolescent girls and young women n=194

- Total eligible for PrEP: 100%
- Aware of HIV status: 86%
- Estimated HIV negative: 74%
- Aware of PrEP: 13%
- On PrEP: 1%

Adolescent girls and young women involved in transactional sex and eligible for PrEP n=194

Chimbindi
“Predicting PrEP Uptake and Adherence among Adolescent Girls and Young Women in Sub-Saharan Africa; Leveraging Programmatic and Clinical Trials Data”

- **Focus**: Levering data from both the DREAMS Initiative program and clinical trials in sub-Saharan African AGYW to understanding the influence of multiple factors on uptake and adherence.

- **Aim 1**: Determine multi-level individual and community risk factors associated with the PrEP uptake and adherence outcomes among AGYW, using programmatic data from the DREAMS Initiative.

- **Aim 2**: Enhance multi-level analysis of the factors identified to influence uptake and adherence by AGYW in Aim 1, leveraging data from both the DREAMS Initiative and the HPTN randomized clinical trials.

Aim 3: Predict the influence of the multi-level factors on AGYW uptake and adherence to HIV prevention packages, and assess their population impact.

Aim 4: Bridge between the randomized clinical trials and the implementation studies to assess combination prevention intervention packages with better precision for AGYW’s uptake and adherence.
Goal: Understand patterns of adherence in AGYW, reasons for non-adherence, and provide insights on ways to improve adherence

Aim 1: Conduct longitudinal analyses to discern patterns of adherence, and identify correlates of adherence

Aim 2: Adapt our mHealth SMS platform (Mobile WACX) to understand issues facing AGYW on PrEP

Aim 3: Use simulated patients (SPs) trained in scripted scenarios to pose as AGYW who will evaluate health care workers’ (HCWs) approach to counseling AGYW
2-way SMS associated with improved PrEP follow-up, continuation, and adherence

Attended routine PrEP follow-up visit

Before mWACH: 40%
After mWACH: 53%

Risk Ratio  p-value
1.3 (1.1-1.7)  0.015

*At one-month post-PrEP initiation; **Self-reported high adherence (missed <1 pill/week)

Pintye et al, IAPAC Miami 2019
“In Our Own Words: Peer-to-Peer Messaging to Increase Uptake of HIV Prevention Strategies among Adolescents in Kenya”

- Aim 1: Elicit adolescents' narratives regarding sexual health and HIV prevention, as voiced to peers;
- Aim 2: Characterize determinants shaping adolescents' mental and behavioral HIV prevention models; and
- Aim 3: Assess the feasibility and acceptability of HIV prevention PSA creation workshops
A Multilevel Comprehensive Response on Uptake and Adherence to HIV Prevention Among Adolescent Girls and Young Women

- **Aim 1:** To engage stakeholders, the Community Collaborative Board, and the YAB in adapting the Women’s Health CoOp (which addresses GBV, substance use, and sexual risk) and stigma and discrimination (S&D) reduction training, establish PrEP clubs, and train 24 expanded public works program (EPWP) beneficiaries as recruiters to identify AGYW engaging in high-risk sex in 6 zones in the Pretoria area during a formative stage.

- **Aim 2:** To evaluate the impact of training on S&D among healthcare staff on the use of HIV and reproductive health services by AGYW, including PrEP, and staff attitudes and behaviors toward AGYW at 3-, 6-, and 12-month follow-up.

- **Aim 3:** To test the efficacy of a multilevel strategy that addresses structural (stigma and discrimination), interpersonal (social support), and individual (personal agency, substance use, and GBV) factors on PrEP uptake and adherence (primary outcomes) and condom use, GBV, substance use, and HIV incidence (secondary) at 3-, 6-, and 12-month follow-up among vulnerable AGYW.
Themes Across Awarded Applications

• Important Topics of Focus
  ▪ Gender-based violence
  ▪ Intimate partner violence
  ▪ Stigma & discrimination
  ▪ Peer support
  ▪ Recognition that adherence is dynamic
  ▪ Life-course transitions

• Novel approaches
  ▪ Distribution of HIV self-tests to AGYW’s partners
  ▪ Social network interventions
  ▪ Behavioral economic incentives
  ▪ mHealth tools
  ▪ Focus on health care providers
Calling for further research on PrEP use & care

• “Strengthening the HIV PrEP Care Continuum through Behavioral, Social, and Implementation Science”

• PA-MH-18-271 (R21) & PA-MH-18-281 (R01)

• This Funding Opportunity Announcement encourages research to:
  ■ identify gaps in the HIV PrEP care continuum and associated determinants;
  ■ develop and test interventions to strengthen PrEP delivery, use, and outcomes; and
  ■ reduce racial/ethnic and age-related disparities in PrEP uptake and use

• Expire January 8, 2020

Stay Tuned for a Move to NOSIs at NIH
Putting the big picture together…

…the solution will involve each piece

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THANKS!