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ABSTRACT BOOK

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International Workshop on HIV & Women 2024

**12 – 13 April 2024
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**Abstracts
Oral
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1

Dynamic Interplay of High-Risk Human Papillomavirus in Women Living with HIV: Persistence, Clearance, Incidence and Synergies with Human T-lymphotropic Virus-1

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Background: Cervical cancer (CC) poses a significant global health threat, with over 85% of deaths occurring in low- and middle-income countries (LMICs), particularly in Eastern and Central Africa, including Kenya. Women living with HIV (WLHIV) face increased susceptibility to high-risk human papillomavirus (HR-HPV) infections, heightening CC risk, and co-infections, with other viral sexually transmitted infections (STIs) such as human T-lymphotropic virus-1 (HTLV-1). This may intensify vulnerability to persistent HR-HPV infections and cancerous lesions. We sought to determine the HR-HPV persistence, clearance, incidence, and their synergy with HTLV-1 among WLHIV receiving antiretroviral therapy (ART) at the Kenyatta National Hospital (KNH).

Methodology: We carried out a prospective cohort study involving 152 WLHIV who had baseline HR-HPV infections among which 17 had HTLV-1 co-infections at KNH's HIV care clinic. At the 12-month follow-up, a cervical sample was obtained using a cytobrush for repeat HR-HPV genotyping through Gene Xpert® assays and HPV Genotypes 14 Real-TM Quant. SPSS version 23.0 was used to analyze data, summarizing categorical variables by frequency and continuous variables by mean or median. The primary outcome was HR-HPV persistence, clearance, and incidence presented as

proportions and stratified by HR-HPV genotypes and their synergy with HTLV-1. Descriptive comparisons were made to assess the synergy between HTLV-1 positivity and HR-HPV outcomes among WLHIV. Associations were examined using Chi-square and Fisher's exact tests for small numbers, with odds ratios reported for risk estimation.

Results: This prospective cohort study included 152 WLHIV who had initial HR-HPV infections, among whom 17 were co-infected with HTLV-1 and provided consent. Participants had a mean age of 41.3 years (SD 8.7) and 29.6% had predictable virological failure (HIV 1 RNA \geq 1000 copies/mL of plasma or higher). The study revealed an overall HR-HPV persistence rate of 89.5%, with a clearance rate of 10.5%. Notably, HR-HPV 52 exhibited the highest persistence rate at 29.6%, followed by type 16 (22.4%) and 18 (19.1%) respectively. Statistical analysis demonstrated a significant association between age and HR-HPV persistence, with rates of 86.8% and 13.2% for older and younger individuals, respectively ($p < 0.001$). HIV diagnosis at an older age (≥ 35 years) and a shorter duration of ART (< 5 years) use were associated with HR-HPV persistence, with rates of 60.3% versus 39.7% ($p = 0.002$) and 64.7% versus 35.3% ($p = 0.004$), respectively. Furthermore, co-infection with HTLV-1 was associated with a 100% HR-HPV persistence rate, compared to an 88.8% rate among participants with HR-HPV infections only.

Conclusion: The study revealed a significant 89.5% HR-HPV persistence rate among WLHIV, with HR-HPV 52, 16, and 18 showing elevated persistence. These findings underscore the importance of implementing the 9-valent HPV vaccine in Kenya, particularly for WLHIV, and highlight a 100% type-specific HR-HPV persistence rate in the presence of HTLV-1 co-infection.

2

Seroprevalence and Correlates of Co-infection With HIV and Active Syphilis Among Women in Six Sub-Saharan African Countries: Results From Population-Based HIV Impact Assessments (PHIAs)

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Background: Ulcerative STIs like syphilis, increase the risk for HIV acquisition and transmission and serve as a point-of-entry and exit for HIV. Globally, about 7.1 million new syphilis infections were reported in 2020, with about 30% reported in sub-Saharan African countries. Currently, there are no HIV-specific syphilis screening programs in the majority of these countries. In this study, we aimed to determine the seroprevalence and correlates of co-infection with HIV and active syphilis among women living in six countries in sub-Saharan Africa.

Material and Methods: For this study, we pooled Population-based HIV Impact Assessments (PHIAs) data from Ethiopia, Kenya, Tanzania, Uganda, Zambia, and Zimbabwe and each conducted cross-sectional, household-based surveys using a two-stage cluster design. We included women aged 18 years or older, living with HIV and were tested for syphilis.

During the surveys, participants were interviewed and tested for HIV infection using national rapid testing algorithms. HIV viral load testing and testing for the presence of selected antiretroviral drugs (ARVs) was done using a qualitative high-performance liquid chromatography/tandem mass spectrometry assay. A suppressed viral load was defined as less than 1000 viral copies per mL. Chembio DPP® Syphilis Screen and Confirm Assay was used to distinguish between active and older syphilis infections (Point-of-care non-treponemal and treponemal syphilis).

A log-binominal regression model was used to determine the demographic and clinical

characteristics associated with co-infection with active syphilis and HIV. We calculated weighted crude and adjusted-prevalence ratios and reported 95% confidence intervals (CI). The level of significance was set to $\alpha = 0.05$ in the fitted models. All analyses were conducted in Stata 16 software.

Results: A total of 8,004 women living with HIV were included in this study. The mean age was 36.8 years (standard deviation: 11.3 years). The majority resided in urban areas (50.2%), were divorced/separated/widowed (48.2%), and had primary education (52.0%). The majority had at least one sexual partner in the past 12 months (60.5%), used a condom in the last sexual intercourse within the last 12 months, and were currently not pregnant (95.1%). Overall, the prevalence of co-infection with active syphilis and HIV was 4.8%. The prevalence of co-infection with active syphilis and HIV was 1.4% in Ethiopia, 0.6% in Kenya, 3.7% in Tanzania, 6.5% in Uganda, 8.5% in Zambia, and 3.0% in Zimbabwe. Women whose HIV viral load was not suppressed were more likely to have co-infection with active syphilis and HIV compared to those whose viral load was suppressed [adjusted Prevalence Ratio (aPR): 1.3, 95% CI: 1.02 - 1.69, p-value 0.032]. Having two [aPR: 3.1, 95% CI: 1.9 - 4.8, p-value < 0.0001] and four or more [aPR: 3.3, 95% CI: 1.4 - 7.5, p-value 0.005] sexual partners in the past 12 months were associated with active syphilis and HIV co-infection.

Conclusion: These findings show a high prevalence of co-infection with active syphilis and HIV. There is a need to develop guidelines for syphilis diagnosis and treatment in HIV clinics in sub-Saharan African countries and target high-risk groups like those with multiple sexual partners.

3

Roll Out of Cervical Cancer Screening and Treatment Program; The Uganda's Success Story

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Background: At 54.8 cases per 100,000 women, Uganda is one of the highest cervical cancer (CxCa) burdened countries in the world. Women living with HIV (WLHIV) are 6 times greater risk of developing CxCa, compared to women without HIV. To reduce the occurrence of CxCa among WLHIV, the Uganda Ministry of Health (MOH), with support from the US President's Emergency Plan for AIDS Relief (PEPFAR) through the PEPFAR agencies (CDC, USAID, DOD) and Implementing Partners, began a CxCa screening and treatment of pre-cancerous lesions program in October 2020. Here, we describe program performance and implications for national scale-up.

Methods: We supported the design, development and printing of standards, guidelines and monitoring and evaluation tools for the program; we also trained national, regional and health facility managers to support the roll-out of the program. MOH procured and distributed commodities required for CxCa screening and treatment of pre-cancerous lesions. To assess performance, we performed a retrospective analysis of CxCa screening and care cascade data from October 2020 through March 2022. We extracted data from the PEPFAR DATIM reporting system. We calculated the proportions of eligible WLHIV on antiretroviral therapy (ART) who were screened, those who screened positive (positivity rate), and those who received treatment for pre-cancerous lesions among those screened positive (treatment rate).

Results: Overall, 543,639 WLHIV on ART aged 25–49 years were eligible for screening during October

2020–October 2022 and was set a 3-year target. By of September 2023, 103% (n=559,575) of eligible WLHIV were screened, with a positivity rate of 6% (n=35,340) and precancer treatment rate of 76% (n=26,945). The second year of implementation (October 2021–March 2022) performed the highest with 55% (299058/543639) of the targeted WLHIV screened. This increased from 20% (109418/543,639) performance in the first year ((October 2020–September 2021) while 34% (184655/543,639) of the national target was screened in the third year (October 2022–September 2023). Likewise, an annual upward trend in treatment rates was noted, from 55% in October 2020–September 2021 to 80% in October 2021–March 2022 period while 84% treatment rate was achieved in the third year (October 2022–September 2023) against those screened positive per year.

Conclusions: The successful program implementation and Improvements in proportion screened and treatment rates were most likely due to consistent commodity distribution, enhanced technical support, and implementation of quality improvement innovations. Additional efforts are needed to ensure all WLHIV who are screened positive receive treatment, including barriers to timely referrals.

4

Case Series of Women With HIV Who Breastfed

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Background: United States (US) guidelines on infant feeding among women living with HIV (WLWH) were updated in January 2023 to increase support for breastfeeding in this population. Many questions exist regarding how to best support families who choose to breastfeed infants in the context of maternal HIV. The primary objective of this study was to describe a breastfeeding population and their clinical outcomes in a large urban center in the US to help inform others seeking to provide similar care.

Methods: We conducted a retrospective chart review from Children's Hospital of Philadelphia Special Immunology Family Care Center. We included cases seen from January 1, 2018 to June 30, 2023. Key inclusion criteria were WLWH who breastfed and their infants. Key exclusion criteria were infants with in utero HIV acquisition. We describe clinical decisions and outcomes.

Results: Among the 11 breastfeeding women, all had an undetectable HIV viral load (VL) from at least the 3rd trimester of pregnancy through delivery. Nine maintained a VL <50 copies/mL throughout the breastfeeding period, with most of the mothers obtaining monthly monitoring. Single drug prophylaxis was given to infants whose mothers had undetectable HIV viral loads (VL). Prophylaxis was increased to three drugs for the two with maternal viremia. One mother pumped and flash-heated milk when viremic. The duration of breastfeeding ranged from <1 day to 13-months. Infants tolerated the prophylaxis well and none of the infants acquired HIV through breastfeeding.

Conclusions: Safe breastfeeding has been demonstrated in this and other small US cohorts. Further research is needed to clarify best practices for monitoring, prophylaxis and support.

5

Risk Factors for Preterm Birth in Pregnant Women Living With HIV: A 25-Year Analysis of the British Columbia Perinatal HIV Database

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BACKGROUND: Women living with HIV (WLWH) are disproportionately affected by preterm birth. Our study aims to identify risk modifiers associated with preterm birth in British Columbia.

METHODS: We analyzed the British Columbia Perinatal HIV Surveillance Database for all singleton births after 20 weeks gestational age from January 1997 to December 2022. Exclusion criteria include multiple gestation pregnancies, therapeutic abortions, spontaneous abortions, and unknown gestational age. Our primary outcome is preterm births, defined as deliveries < 37 weeks gestational age. The chi-squared test, Fisher's exact test, F-test ANOVA and Wilcoxon rank sum tests were used to complete univariate analyses depending on the variable. A multivariate logistic regression model included clinically relevant factors with p-value < 0.1 in the univariate analysis and other factors that might be associated with preterm birth.

RESULTS: Out of 578 singleton pregnancies in WLWH, 111 (19.2%) delivered preterm, of which 34 (31%) were before 34 weeks. Factors associated with appropriate HIV care in pregnancy were correlated with lower rates of preterm birth. Specifically, individuals on antiretroviral at delivery (OR: 0.41; 95% CI: 0.27 - 0.6; p = 0.0003), accomplished viral suppression at delivery (OR: 0.42; 95% CI: 0.29 - 0.59; p < 0.0001), and with a CD4 count above 350 were at lower odds of having a preterm birth (OR: 0.49; 95% CI: 0.34 - 0.7; p = 0.0003). However, the class of antiretroviral therapy used in pregnancy does not significantly affect preterm birth rates (p = 0.95). In our cohort, 118 (20%) of pregnant women endorsed substance use in pregnancy. Women who used any substances (including tobacco, alcohol, cannabis,

opioids, or stimulants) had a 31% preterm birth rate compared to 16% in women who did not (OR: 1.95; 95% CI: 1.39 - 2.74; p = 0.0004). Sexually transmitted infections and bacterial vaginosis (STIBV) were diagnosed in pregnancy in 65 (11%) women. Individuals with STIBV in pregnancy had a 37% preterm birth rate compared to 17% (OR: 2.18; 95% CI: 1.5-3.16; p = 0.0003). After adjusting for history of preterm birth, CD4 count at delivery, and antiretroviral regimens, independent risk factors include substance use in pregnancy (OR: 1.90; 95% CI: 1.03-3.50; p = 0.041), unsuppressed viral load at delivery (OR: 2.03; 95% CI: 1.09-3.79; p = 0.026), Hepatitis C in pregnancy (OR: 1.98; 95% CI: 1.02-3.83; p = 0.043) and STIBV in pregnancy (OR: 2.06; 95% CI: 1.04 - 4.10; p = 0.039).

CONCLUSIONS: In British Columbia, independent risk factors associated with preterm births in WLWH include unsuppressed viral load at delivery, substance use in pregnancy, as well as concurrent Hepatitis C infection, sexually transmitted infections or bacterial vaginosis in pregnancy. Pregnancy care providers should counsel WLWH on how these modifiable risk factors impact their rates of preterm birth.

6

Birth Defects Following Dolutegravir Transition among Women Delivering at Surveillance Sites in Eswatini

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Background: Early data from Botswana on dolutegravir (DTG) suggested a potential neural tube defect (NTD) safety signal among infants of women who received DTG at conception, although this safety signal appeared to resolve over time as larger numbers of exposures were observed. We conducted surveillance in another African country without routine folate food supplementation to more definitively establish DTG safety among reproductive-aged women.

Methods: Data on pregnancy history and HIV/ART status were collected from paper and electronic clinic records of women and infants born in 5 Government hospitals in the 4 regions of Eswatini during September 2021 to September 2023. Mothers of infants with birth defects were consented and interviewed to obtain additional information on exposures and risk factors. Defects were diagnosed and photographed at health facilities; photos and written reports were reviewed by an independent medical geneticist for confirmatory diagnosis. We calculated rates and 95% confidence intervals (CI) for birth defects among live and stillborn infants stratified by maternal HIV and ART status. A multivariate log-binomial regression using risk ratios (RR) was used to determine factors associated with major birth defects.

Results: Of 45,840 mothers who delivered at the facilities, median age was 26 (interquartile range: 21-32) years; 44,782 (97.7%) had a live birth and 1,026 (2.2%) had a stillbirth; 32 (0.1%) had both a live and still birth. Of 13,577 (29.6%) women with HIV, 9,743 (71.8%) were on DTG pre-conception,

1,884 (14.2%) initiated DTG during pregnancy or at delivery, 1,838 (13.5%) were on non-DTG ART and 112 (0.8%) had unknown regimen and/or timing. Overall, 215/45,724 (0.47%; 95% CI: 0.41,0.54) major external structural birth defects were identified; no infants of women with unknown HIV or ART status had defects and are excluded from denominator.

NTD prevalence was 0.08% (27/32,259), 0.10% (13/13,465), 0.08% (8/9,743), 0.22% (4/1,884) for HIV-negative women, women with HIV, women with HIV on DTG preconception, and women with HIV on non-DTG ART preconception, respectively. Non-NTD major birth defects prevalence was 0.38% (124/32,259), 0.48% (65/13,465), 0.53% (52/9,743), and 0.49% (9/1,838) for HIV-negative women, women with HIV, women with HIV on DTG preconception, and women with HIV on non-DTG ART preconception, respectively; 14 infants had both NTD and other major defects. Sixteen NTD (40.0%) were myelomeningocele/meningocele; the most common non-NTD major defect was varus foot malformation (16.3%, 35). Two women whose newborns had major birth defects reported taking epilepsy treatment preconception; four women had pre-pregnancy diagnoses of diabetes; seventeen women took alcohol; five women smoked tobacco during pregnancy. No one took folic acid before pregnancy. There were no statistically significant differences in major birth defect risk by HIV status (RR 1.12, 95%CI: 0.83-1.52), maternal age (18-34 vs ≥35 years, RR 0.73, 95%CI: 0.48-1.12) or gravida (1 vs >2, RR 1.27, 95%CI: 0.63-3.32).

Conclusion: NTD and major birth defect prevalence were similar between women with HIV receiving DTG preconception and HIV-negative women. Overall NTD prevalence was slightly higher in Eswatini compared to Botswana (0.09% vs. 0.07%). Lack of preconception folate was also identified in all women of infants with birth defects.

7

The Health Outcomes Around Pregnancy and Exposure to HIV/ARVs (HOPE) Study: A Prospective Cohort of Reproductive-Aged Women Living With HIV

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Introduction: Limited research has applied life course approaches to study health outcomes among US women living with HIV (WLHIV) across reproductive life stages. The Health Outcomes around Pregnancy and Exposure to HIV/Antiretrovirals (HOPE) study is a prospective study designed to investigate physical and mental health of WLHIV of reproductive potential as they age, including HIV disease course, engagement in care, reproductive health and choices, and cardiometabolic health. We describe the HOPE study design, and participant characteristics at entry.

Materials and Methods: HOPE is a prospective, observational study aiming to follow 1630 WLHIV of reproductive age, including those with perinatally acquired HIV (PHIV), at 12 clinical sites across 9 US states including Puerto Rico. The study leverages the Pediatric HIV/AIDS Cohort Study (PHACS) network infrastructure to study multi-level dynamic determinants influencing health of WLHIV across the reproductive life course. Eligible individuals are 1) female, based on biological sex at birth; 2) living with HIV 3) age 18 to <40 years if pregnant or parous and 18-30 years if nulliparous and non-pregnant; 4) 13+ weeks of gestation if pregnant; 5) willing to provide access to medical records, legal consent/assent and complete study assessments in English or Spanish. Objectives of the HOPE study address scientific questions about physical, mental, and social well-being of WLHIV throughout the reproductive life course (preconception, pregnancy, postpartum, not or never-pregnant). Key research areas include the relationship of HIV and antiretroviral medications to reproductive health, pregnancy outcomes, and chronic comorbidities, and the influence of racism and social determinants of health. We describe characteristics of the first 413 participants by reproductive stage at entry using percentages for categorical variables and medians for continuous variables.

Results: HOPE began enrolling in April 2022. As of December 1, 2023, 413 participants have enrolled: 20% nulliparous/not pregnant, 14% pregnant or recently delivered, 18% within one-year postpartum and not pregnant, and 48% parous/not pregnant. Most (95%) identified as women. Median age was 30 years, 72% identified as Black or African American, 25% White, 2% as more than one race, and <1% as Asian or Native American. Twenty-eight percent identified as Latina or Hispanic. Seventy-three percent were co-enrolled in PHACS studies allowing leveraging of PHACS data. Most participants reported having a steady place to live while 12% had no steady place or were worried about losing their place to live. Twenty-eight percent of participants reported low or very low food security. Seventeen percent reported moderate or more severe depression symptoms (PHQ-9 score >10) and 17% reported moderate or more severe anxiety symptoms. Thirty-five percent of participants were living with PHIV. Most recent HIV RNA in the past year was <50 copies/mL for 75% of participants; 8% of participants had a CD4 count of <250 cells/mm³.

Conclusions: HOPE enrolled 413 participants over 19 months. Approximately half were parous/non

pregnant women while the remaining were fairly evenly distributed across nulliparous, pregnant or recently delivered, and one-year postpartum groups. Most were African American and had well-controlled HIV, but a high prevalence of food and housing insecurity, depression and anxiety.

8

The CD38-NAD⁺ Axis Mediates a Hyperinflammatory State in WLWH

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Background: Worldwide, 52% of adults infected with HIV are women. Though access to effective antiretroviral therapy (ART) has increased, women living with HIV (WLWH) have higher rates of non-AIDS comorbidities, faster progression to AIDS, and mortality than men living with (MLWH). One reason for this difference is disproportionately higher inflammatory cytokine production, a consequence of immune activation. A hallmark of immune activation in PWH is increased expression of CD38. We and others have shown that CD38 expression persists on CD4⁺ and CD8⁺ T cells in PWH despite viral suppression with ART, induces the secretion of inflammatory cytokines, and is the primary degrader of intracellular nicotinamide adenine dinucleotide (NAD⁺). However, the contribution of CD38 expression in the context of hyperinflammation in WLWH is not completely understood. Therefore, we sought to determine if there are differences in CD38-induced inflammatory cytokine production between WLWH and MLWH and if gene signature variances may account for these differences.

Materials and Methods: We performed RNAseq analysis with sorted CD38⁺ and CD38⁻ T cells from four groups of samples: MWLH, male controls, WLWH, and female controls. Differentially expressed genes (DEGs) on CD38⁺ cells were identified by selecting genes that had 2-fold changes in mean normalized read counts compared to CD38⁻ cells and adjusted $p < 0.05$. We executed principal component analysis (PCA), clustering analysis, heatmap and MA plot to compare gene expression profiles and performed pathway enrichment analysis using the Ingenuity Pathway Analysis Tool (Qiagen) to predict pathways deregulated by the DEGs in CD38⁺ cells. In addition, peripheral blood mononuclear cells (PBMCs) of MLWH and WLWH were stimulated with anti-CD3/CD28 antibodies and the proportions of Interferon-gamma (IFN γ) secreting CD38⁺ T cell subsets were measured by flow cytometry.

Results: The PCA and heatmap-clustering analysis demonstrated that CD38⁺ T cells had a distinct gene expression profile compared to CD38⁻ T cells in all 4 groups. Moreover, WLWH had a distinct gene expression signature compared to MLWH. The top 50 enriched pathways predicted by the DEGs in CD38⁺ cells indicated that inflammation and cytokine signaling pathways were activated in MLWH and WLWH but not control groups (genes involved: IL-8, IL-15, FLT1, PDL1, IRF8). The mitochondrial dysfunction pathway was depressed in CD38⁺ cells in all groups (genes involved: ARG2, ATP5F1E, ATP5ME, CACNA1H, CACNB3), whereas CD38⁺ cells from WLWH had exaggerated downregulation of the NAD⁺ signaling pathway compared to MLWH (genes involved: H1-0, ERN1, H2BC12, H2BC5, PDGFB, TGFA). Upon polyclonal stimulation, a significantly higher proportion of CD8⁺CD38⁺ T cells expressed IFN γ in WLWH compared to MLWH ($p < 0.01$), suggesting an increased propensity of CD8⁺ T cells in WLWH to produce proinflammatory cytokines due to increased CD38 expression.

Conclusions: CD38 expression, which persists despite viral suppression by ART, may be a critical driving factor for a chronic, hyperinflammatory state in WLWH. In addition, CD38-induced reduction in intracellular NAD⁺ levels in WLWH contributes in additional downregulation of NAD⁺-mediated pathways compared to MWLH. Therefore, the CD38-NAD⁺ axis critically associates with the risk of end-organ damage from chronic inflammation in WLWH, making this a potential therapeutic target.

9

Sex Disparities in Geriatric Syndromes among People 50 Years or Older Receiving Care For HIV Infection in Mexico (2012-2017)

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Background: HIV-infection accelerates aging, leading to early development of age-related conditions. Limited data exist on comorbidities and geriatric syndromes in Latin American adults with HIV. Furthermore, little is known whether older women with HIV are disproportionately affected. We aimed to estimate the frequency of comorbidities and geriatric syndromes and explore their associated characteristics among older women and men receiving HIV care in Mexico.

Methods: This cross-sectional study, conducted from 2012 to 2017 in Mexico, included adults with HIV aged 50 or older. Participants were receiving care in two hospital-based referral centers, one second level hospital-based HIV-ambulatory clinic, and three primary HIV-care centers. We screened for the presence of non-communicable disorders (NCDs), disability [Barthel Index for basic activities of daily living (ADL) and Lawton index for instrumental ADL (IADL) and Rosow-Breslau Scale for mobility], depression (Geriatric Depression Scale), neurocognitive impairment (Antinori criteria), frailty (Fried phenotype criteria), polypharmacy (defined as >5 drugs), falls (>1 in previous year), and visual and hearing impairment. We compared the prevalence of each of these syndromes by sex using the Chi-square and Kruskal-Wallis tests. We fitted multivariate logistic models to identify the association of sex with the presence of NCDs and geriatric syndromes. We included these covariates: sex at birth [Women-Men], current age [<60,60-70,≥70], current CD4 count [<200,≥200], and education level [Primary, Secondary, more than secondary].

Results: We enrolled 616 participants, of which 114 (18.5%) were women. Women were older (median 57yo vs 56yo, $p=0.032$) and with lower mean education (12y vs 6y, $p<0.001$) than men. There were no differences by sex in the percentage of current viral suppression (86% vs 85%, $p=0.78$) and median CD4 counts (508 vs 458, $p=0.27$). Overweight/obesity was more frequent among women (60% vs 46%, $p=0.007$). Other NCDs were frequent overall, with no differences by sex (Diabetes 14%, Dyslipidemia 33%, non-AIDS defining malignancies 6%, generalized anxiety disorder 3%, visual impairment 55%). Women had a higher prevalence of any NCDs than men: 70% vs 58% ($p=0.02$); and of these geriatric syndromes: falls: 44% vs 26% ($p<0.001$); depressive symptoms: 15% vs 7.6% ($p=0.02$); Frailty: 9.6% vs 3.2% ($p=0.047$). A non-significant higher proportion of neurocognitive impairment was also found in women: 48% vs 40% ($p=0.08$). Women had increased adjusted odds compared to men for: frailty (aOR 4.38, 95%CI 1.7–11.0, $p=0.01$), falls (aOR: 1.97, 95% CI:1.18 – 3.28, $p<0.01$); NCDs (aOR: 2.03, 95%CI:1.27 – 3.23, $p<0.01$) and depression (aOR: 2.35, 95%CI: 1.17 – 4.61, $p<0.01$). Increasing age was also associated with some syndromes (aOR 9.9, 95%CI: 3.4 – 28.9 in >70yo compared to those 50-59yo for frailty and aOR 2.33, 95%CI: 1.18- 2.7 for falls,). CD4 count <200cells/mL was associated with frailty (aOR 9.02, 95%CI: 3.6 – 22.3) and NCDs (aOR 2.3, 95%CI: 1.23 – 4.42).

Conclusions: In Mexico, older women living with HIV experience a high prevalence of non-communicable disorders and geriatric syndromes. Overweight/obesity, falls, comorbidity, depression, frailty and disability disproportionately affect women. Being women, was associated to a higher risk of frailty, falls, NCDs, and depression, independently of age, current CD4 counts and education level.

10

Antiretroviral Therapy Adherence Strategies for Women with HIV in the Postpartum Period

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Background: Strategies to improve adherence to antiretroviral therapy (ART) in the postpartum period are needed to maintain maternal and pediatric health.

Material and Methods: Guided by the Consolidated Framework for Implementation Research, we conducted semi-structured interviews with postpartum women with HIV, their multidisciplinary providers, and health insurers (payers) to understand their perspectives on diverse adherence support strategies such as text messages, video check-ins with providers, automated video check-ins with facial recognition for directly-observed-therapy, signaling pill bottle, and long-acting injectable ART (instead of oral ART). Patients and providers were recruited from three prenatal HIV care sites in the Northeast and Southern U.S. The interview instrument included questions on the implementation climate, barriers and facilitators to the clinical integration of the adherence approach and strategies that could be used to maximize this integration. The order of adherence support technologies was randomized to minimize bias. We used a modified grounded theory to develop the coding structure and two coders applied the codebook to the transcripts.

Results: Between June 2020 and January 2024, we conducted 51 in-depth, semi-structured interviews (24 providers, 25 patients and 2 payers) who weighed several factors when considering each approach, including the approach's effect on patient-provider interaction in and outside of the clinic visit, timing for and duration of the approach's utility, threat of disclosing status, and added burden to providers (e.g., needing to act on generated information) or to patients (e.g.,

needing to hide the signaling pills, responding to text messages). Patients' most preferred approach was the long acting injectable while the providers' most preferred approach was text-messages. For both groups, the least preferred was the signaling pill. Barriers to acceptability varied by approach and included perceived surveillance, violation of privacy, added time demand for providers, potential inaccuracy of the adherence data generated, and negative impact on the patient-provider relationship, particularly if the approach was perceived as coercive. Payers anticipated regulatory hurdles with unfamiliar approaches, particularly the signaling pill and signaling pill bottle. Facilitators included strengthened therapeutic alliance, predictable reminder mechanisms, and options for customization according to patient preference.

Conclusions: Long acting injectables and text message reminders emerged as the most accepted adherence support measures for women in the postpartum period. In addition, our study elucidates barriers and facilitators to integrating adherence support approaches in clinical care.

11

EmpowerHER: Black Women's Reasons for HIV Prevention

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Despite seeing 12% decline in new HIV infections from 2017 to 2021, with most attributed to men/MSM, new infections numbers remained stable amongst women (CDC, 2023). Of these, Black women have a 17.6 times higher prevalence of HIV than White women, and a lifetime risk of 1 in 48. Also, within the Black-Immigrant women subset, HIV incidence per capita is six times higher than the general populace and nearly twice that of US-Born Black individuals (Nnaji & Ojikutu, 2022). This highlights the need for increased HIV prevention efforts in Black/African women communities in the United States of America.

The EmpowerHER initiative centers ViiV Healthcare's 'Risk to Reasons' methodology to explore the effectiveness of culturally appropriate HIV prevention programming that centers Black women, in creating increased awareness/engagement with HIV prevention efforts. This project worked with 140 Black/African American women, (US and non-US born), living in the bi-state St. Louis metropolitan area, who are 18 and older over a period of 9 months in 2023, to explore the following. a) Black women's awareness of their options for HIV prevention; b) Prevalence of communal and open discussion on sexual health/HIV prevention with other Black women; c) Factors most important in preventing HIV and perceived best practice for self and health service organizations.

97.1% (n=136) of the 140 Black women surveyed confirmed knowledge of HIV testing sites, condom use, and abstinence as methods of HIV prevention. However, most participants had never heard of PrEP/PEP, assume it is a medication for HIV treatment, or attributes its use solely for the LGBTQIA+ community. Further, 77.9% (n=109) of respondents have open discussions around 'Women/Sexual Health' with other Black women in their circle or community (family, friends, co-workers, etc.). Although these discussions are around sex and sexual relationships, not necessarily focused on HIV prevention. As the most important factor in HIV prevention, 32.1% (n=44)

of respondents ranked 'Access to Healthcare' vis-a-vis Insurance, culturally competent doctors/hospitals, and medication access as the highest indicator for success. 23.4% (n=32) selected 'Social Support' (having stable, loving and supportive relationships with spouse, partner, family, friends) as the most important factor. While 20.4% (n=28) indicates 'Sexual Behavior' (number of partners, partners' orientations, condom use, frequency of sexual acts, etc.) plays a significant role. Interestingly, only 19.7% (n=27) of the respondents see 'Economic Stability' (high income, stable finance, well paid job, low fiscal responsibility, etc.) as the greatest contributing factor in being successful with HIV prevention efforts. Other respondents (n=9) highlight trauma and all the above as significant factors.

Thus, it is critical to explore ways to reach Black women irrespective of their socio-cultural-economic status to actively engage in HIV Prevention via awareness of and utilization of HIV prevention and treatment options. Perhaps most importantly, is to address the barriers to accessing and navigating prevention options. Like collaborating with medical providers (PCPs, OBGYNs, etc.) on easier preventive care access (especially PrEP and nPEP), increase support for Black women led safe/communal spaces, and center Black women in HIV prevention programs, advertising, and campaigns.

12.A.

Dapivirine Vaginal Ring: An Acceptable and Feasible HIV Prevention Option. Evidence From a Low Resource Setting

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Background: HIV burden remains high in Zimbabwe with an estimated prevalence among adults of 12.9% in 2020. Adolescent girls and young women (AGYW) are disproportionately affected with an HIV incidence of 0.54% compared to 0.13% among their male counterparts (ZIMPHIA,2020). Whilst oral PrEP remains a key HIV prevention modality, pill burden and privacy remain key barriers to oral PrEP uptake and continuation. Population Solutions for Health in collaboration with Population Services International (PSI) and the Ministry of Health and Child Care conducted a study to determine acceptability and feasibility of using Dapivirine vaginal ring (DPV-R) as an alternative HIV prevention method among AGYW in comparison to oral PrEP, to inform scale-up.

Methods: A two-arm prospective cohort study was conducted across 8 districts (5 rural and 3 urban) in Zimbabwe. AGYW aged 18-35, screened as high-risk and eligible for PrEP chose between oral PrEP (arm 1) and DPV-R (arm 2). Clients from both arms were followed up monthly for four months between June and November 2022. Acceptability and continuation rates were compared between the two study arms for significant difference. Additionally, key informant interviews were also conducted with clinicians involved in PrEP service provision.

Results: A total of 1,535 AGYW were screened for PrEP, 1,466 were eligible and of these 1,128 (76.9%) (95% CIs: 74.7-79.7) chose DPV-R. Acceptability was similar by age but differed significantly by residence with higher acceptability observed in the rural (97.5% - 95%CI: 96.0-98.6) relative to the urban (61.0% - 95%CI: 57.6-64.3) districts. Continuation rates were consistently higher among clients on DPV-R compared to oral PrEP as shown in the graph below. Five out of 1,128 high-risk AGYW (0.4%) tested HIV positive since commencement on DPV-R compared to

1/338 (0.3%) receiving oral PrEP in the same period. Service providers reported high motivation to take DPV-R among AGYW citing that it is discrete and therefore improves convenience and better adherence.

Conclusion: DPV-R is a more preferable and feasible PrEP option among AGYW in Zimbabwe and should be scaled up to other districts. More demand generation activities are required in urban settings for improved uptake.

The data mentioned in abstracts 12.A. and 12.B. have been combined for the oral presentation.

12.B.

HIV Sero-Conversions Among Adolescent Girl and Young Female Dapivirine Vaginal Ring (DPV-R) Users: Early Learnings From a Demonstration Project in Zimbabwe

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Background: Zimbabwe demonstrates impressive progress towards the UNAIDS 95-95-95 targets with estimated 86.8%, 97.0%, and 90.3% achievement among adults living with HIV. The country scaled-up implementation of biomedical HIV prevention including oral PrEP as part of prioritized combination prevention effort to be used by people at risk of HIV infection. To expand consumer choice for PrEP, the Ministry of Health and Child Care, PSI, and Population Solutions for Health are currently implementing a DPV-R demonstration project to determine uptake and feasibility of DPV-R among adolescent girls and young women (AGYW) including female sex workers and young women selling sex. The demonstration assessed sero-conversion as a primary outcome.

Methods: A two-arm prospective cohort design recruited AGYW 18-35 in 8 districts. AGYW eligible for PrEP chose between oral PrEP (arm 1) and DPV-R (arm 2), targeting 1,100 DPV-R participants. DPV-R participants are followed up monthly for six months with HIV testing at every visit. By December 2022, 1,127 DPV-R users were enrolled with 1,032 followed after 1-month, 908 after 2-months, 735 after 3-months, 465 after 4-months, 255 after 5-months and 80 after 6-months. The remaining follow-ups among newer clients will complete by June 2023.

Interim Results: 8/1,032 (0.78%) DPV-R users HIV sero-converted compared to 1/338 (0.3%) oral PrEP users. Analysed by visit, 6/1,032 (0.6%) tested HIV positive at 1-month, 2/908 (0.2%) at 2-months, 2/735 (0.3%) at 3-months, and none at 4-6 months. By age, 15-19 (1.2%) (0.2-3.3: 95% CIs) and 20-24 (0.6%) (0.2-1.5: 95% CIs) tested HIV positive. The sero-conversion results are

comparable to similar studies (IPM 032/DREAM interim results (1.8%) and MTN-025 (1.9%)). 3% participants opted out due to side effects, relocation or partner discouragement.

Conclusion: HIV Sero-conversions among DPV-R users were comparable to other PrEP options. This and high acceptability and continuation (demonstrated in this same demonstration project) with DPV-R compared to oral PrEP indicates value in scaling up DPV-R.

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Factors Associated with Unawareness of HIV Status and Recency of HIV Infections among Women Living with HIV: Findings from a Population-Based Survey in Thirteen African Countries

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Introduction: HIV/AIDS remains a persistent global health challenge, demanding effective strategies for testing, treatment, and prevention. This study addresses the critical issue of HIV-positive women unaware of their status, impeding epidemic control. Despite expanded testing availability, a substantial proportion of women in sub-Saharan Africa are uninformed. Examining demographics, socio-economic factors, clinical characteristics, healthcare access, and recency of infection across thirteen African countries, this research aims to elucidate reasons behind this unawareness. Acknowledging the testing's vital role in accessing services and meeting global targets, the study seeks insights essential for bridging this gap and enhancing epidemic control efforts.

Methods: This retrospective cross-sectional study analyses secondary data from Population-based HIV Impact Assessment surveys (PHIAS) conducted in Cameroon, Cote d'Ivoire, Eswatini, Ethiopia, Kenya, Lesotho, Malawi, Namibia, Rwanda, Tanzania, Uganda, Zambia, and Zimbabwe. The surveys employed two-stage cluster sampling and included face-to-face interviews, home-based HIV testing, and counselling. Data were collected from individuals aged 15 years and above. Weighted chi-squared analysis and log-binomial regression were used to identify associations between awareness of HIV+ status and various factors.

Results: Among 27,983 women living with HIV (WLHIV), 26.6% were unaware of their HIV-positive status. Unawareness varied by age, residence, marital status, wealth index, sexual behaviour, condom use, and region. Factors independently associated with unawareness included age 25–59

years, rural residence, being married or widowed, wealthier status, having one sexual partner, non-condom use, and not visiting a TB clinic. Eastern, South Eastern, and Southern Africa had lower awareness than Western Africa. We also found most WLHIV unaware of their HIV+ status had long term infections and were virally unsuppressed, Over a half of these women had one or more sexual partners and did not report condom use in the past 12 months.

Discussion: This study provides critical insights into the characteristics of WLHIV unaware of their status, emphasizing the importance of nuanced, gender-specific approaches in HIV research and public health initiatives. By knowing their status and commencing treatment, WLHIV will be able to lead longer, healthier lives as well as prevent further onward transmission of HIV to their sexual partners. Targeted strategies are needed to bridge existing gaps in HIV testing accessibility, contributing to achieving universal diagnostic coverage by 2025. This study aligns with global health goals and aims to inform policies, programs, and interventions for comprehensive HIV care.

Conclusion: Understanding the demographic and socio-economic profiles of HIV-positive women unaware of their status is crucial for developing effective interventions. This study contributes valuable insights, advocating for gender-specific approaches in HIV research and public health initiatives, ultimately working towards the UNAIDS target of 95% diagnostic coverage by 2025.

International Workshop on HIV & Women 2024

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Flourishing With HIV: A Roadmap for Women and Girls

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Background: Historically, there has been a gap in resources for women living with HIV (across the gender spectrum) when it comes to accessing quality care services. Through a collaboration with CityMatCH, funded by the Centers for Disease Control and Prevention, a virtual tool was developed to serve as a “one stop shop” to educate and empower women living with HIV when it comes to their care journey across the life course. CityMatch engaged partnerships with community-based organizations including the Mother and Child Alliance, Positive Women’s Network -USA, SisterLove, and The Well Project, Partner organizations engaged additional key stakeholders including women living with HIV into their teams for the development of the roadmap.

The roadmap bridges stories and science to empower and educate women living with HIV to support optimal health and wellness across their life course. Users can access information either by age categories (childhood through aging) or by population group (parenting, pregnancy, lifetime survivors and women of transgender experience). Content categories within each age or population group include health, wellness, relationships, community, and safety.

Materials and Methods: Developed over two years, the partner organizations/key stakeholders provided expertise, resources, community leadership, and lived experiences to develop the roadmap. The life course perspective offers a way of looking at health as an integrated continuum and how the many stages/facets of life contribute to an individual’s health and well-being. Through monthly meetings (and one in-person convening), the partner organizations/key stakeholders worked to identify how to address the most pressing needs of women seeking information across the life course. This resulted in breaking out the life course into 5 age groups including childhood (0-12), adolescence (12-24), adulthood (25-44 and 45-65), and aging (65+). It also included the development

of 4 key population groups (parenting, pregnancy, lifetime survivors and women of transgender experience). Additional contributions from the partner organizations/key stakeholders included ensuring inclusive and people-first language and identifying the most pressing issues/resources for each age group and population.

The digitally formatted “roadmap” is designed to be both desktop and mobile friendly and provides filters and search functions to help users navigate and access evidence-based resources and information. The roadmap also includes storytelling videos (recorded during the in-person meeting) that highlight the diversity of women’s individual experiences of living with and thriving with HIV. The primary audience is people living with HIV, including women and gender diverse persons with additional audiences including individuals providing health, wellness, and prevention services for women living with HIV.

While it is a living resource and will be continually updated, the roadmap can be accessed at <https://livingwithhiv.citymatch.org/>.

Results: The roadmap is a model for engaging the expertise of women living with HIV and community-based organizations with federal partners to empower women living with HIV by increasing access to relevant resources and information and increasing cultural competency for those who care for them.

Conclusion: The roadmap utilizes evidence-based information and personal experiences to provide women living with HIV with resources to support optimal health and wellness across their life course.

15

Clinic-Based HIV Identification and Prevention in Cisgender Women Using Electronic Resources (CHIPPER): A Hybrid Type II Implementation/Effectiveness Trial

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Background: U.S. cisgender women comprise 1 out of 5 new HIV diagnoses with 82% of cases attributed to heterosexual contact. HIV testing and pre-exposure prophylaxis (PrEP) are effective prevention strategies to help end the HIV epidemic. However, PrEP uptake among women is low. Our objectives are to improve patient's knowledge of HIV, reduce provider discomfort with taking a sexual health history, and better identify women who are vulnerable to HIV.

Methods: A hybrid type II effectiveness-implementation trial is being conducted to assess the effectiveness of electronic medical record (EMR) interventions to increase PrEP uptake and HIV testing in eight gynecology clinics across academic, community-based, and Federally Qualified Health Centers in Baltimore, Maryland, a high HIV prevalence city. After PrEP education and brief motivational interviewing training, 45 clinic providers (i.e., MD, CNM, NP, PA) were randomized into one of three arms. Patients of providers ages 15-65 years with public insurance and scheduled for an annual exam, STI testing, or contraception visit were texted a link to an electronic sexual health questionnaire before their visit. The questionnaire was electronically-scored low or medium-to-high HIV risk.

Patients who scored medium-to-high risk were included in the arm of their provider: Arm 1) routine care, Arm 2) patient received personalized HIV risk messaging and link to an HIV PrEP animation, and Arm 3) provider received an EMR alert about their patient's HIV risk, plus the patient

received personalized HIV risk messaging and link to the animation. Those who scored low risk were offered a laboratory-based HIV test, which was automatically ordered (*started 6-months after the trial). The RE-AIM (Reach, Effectiveness, Adoption, Implementation, Maintenance) framework was used for evaluation. The primary outcome was PrEP initiation and a secondary outcome included HIV testing.

Results: Five-hundred and fifty women completed the questionnaire. Mean age was 35 +/- 12.1 years and 71% self-reported as Black/African-American, 20% White, and 5% Hispanic/Latinx. More than half of women (58%, n= 323) scored medium-to-high risk, 5% (n=16) had documented PrEP counseling, and 20% (n=3) of those with counseling were prescribed PrEP: one patient in Arm 3 and two patients in Arm 2. Additionally, there were 227 women who scored low-risk, and of those who were offered an HIV test (n=87), 62% agreed and 35% of them completed the HIV test. The EMR alert to providers in Arm 3 captured reasons for not discussing PrEP and most study visits (53%) indicated "Plan to discuss at next visit or did not have enough time" and 8% indicated "Disagree with recommendation or PrEP not needed for patient."

Conclusion: Despite multi-level interventions, PrEP counseling and uptake remains low. The tendency of providers to postpone PrEP discussions underscores the need for strategies that alleviate in-clinic time constraints. Although, automated HIV test offering before the visit was feasible, many women did not complete the laboratory-based HIV testing. Potentially, point-of-care HIV testing options may improve test completion. While our study addressed many commonly cited PrEP barriers among women, challenges persist in translating interventions into substantial improvements in PrEP uptake.

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Co-designing a Peer-Led Mhealth Intervention (“TwySHE”) to Prevent HIV and Unintended Pregnancy Among Female Students in Zambia: Findings From Participatory Human Centered Design Workshops

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Background: HIV and pregnancy-related complications are leading causes of death for adolescent girls and young women (AGYW) in sub-Saharan Africa. In Zambia, oral pre-exposure prophylaxis (PrEP) and modern contraception are freely available; however, uptake is low among AGYW. Using Human Centered Design (HCD) workshops, this study sought to co-design a peer-led mhealth intervention to prevent HIV and unintended pregnancy among female university students – a neglected, high-risk subpopulation.

Methods: We recruited 154 stakeholders to participate in seven HCD workshops, including female and male students, student HIV peer educators, sexual and reproductive health (SRH) service providers, and student group leaders. Through participatory HCD activities, we collected qualitative data and artifacts (e.g. photographs of output from activities) to inform student SRH needs and co-design key intervention components and the content and functionality of a mobile application to facilitate the intervention.

Results: Participants in the HCD workshops highlighted their interest in using a peer-based messenger app to disseminate SRH information and facilitate health service navigation among university students. Key barriers to intervention efficacy included access to mobile phones and the internet to use the app, lack of cultural and religious acceptance of an SRH intervention for young women, and fears around health provider attitudes. Peer navigator characteristics considered to be important included SRH training and having

relevant lived experiences, being similar age as students, and having non-judgmental attitudes about female sexuality. The most emphasized peer navigator characteristic was the ability to make students feel comfortable and accepted. Factors to facilitate effective intervention included addressing social barriers, such as stigma, and encouraging conversations about SRH issues, along with improving accessibility to youth friendly SRH services. Recommended content of the mobile application included SRH information and local SRH resources, and private, secure communication between users of the app. “TwySHE” was recommended as the name of the intervention and app, meaning in local dialects “she needs to know.”

Conclusions: Through a series of HCD workshops with key stakeholders in Zambia, we gained significant insight into the design and implementation of an acceptable peer navigator mhealth intervention aimed at increasing modern contraception and PrEP use among at-risk female university students. Well-trained peer navigators with lived experience, stigma reduction around both HIV and female student sexuality, and youth friendly SRH services were identified as key components needed within the proposed intervention to increase use of PrEP and modern contraception in this population of young women. Participants universally felt that a mobile app was an appropriate and acceptable way to facilitate the peer navigator intervention. Results from these HCD workshops will be useful in implementing a peer-based intervention among university students in Zambia and could be applied to other similar settings across sub-Saharan Africa.

17

Utilization of Social Media Platforms to Identify and Link HIV Services to Unreached Female Sex Workers (FSWs) in the Western Region of Ghana

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Issue: Social media is becoming an accessible platform for communication and information

sharing among female sex workers (FSW) in Ghana. Social media has emerged as an avenue where FSWs are increasingly soliciting for potential clients and sexual partners rather than physical hotspots. In Ghana, the national HIV prevention program for key populations is often implemented through traditional peer outreach. However, there are some segments of FSWs who engage in risky sexual behaviors but are unreached with HIV prevention programs via physical outreach. Recognizing the unique vulnerabilities of this population calls for a comprehensive approach that combines outreach, education, and support through various social media channels.

Description: Heart-for-Help-Foundation (HeHeF) in collaboration with Maritime Foundation conducted a rapid assessment to identify most frequented social media platforms used for finding potential sexual clients by FSWs such as Facebook, Snapchat, Instagram and Tinder. Carefully tailored content on HIV prevention, testing and treatment options were posted on these platforms to raise awareness, destigmatize HIV-related issues, foster a sense of community, and promote HIV services among FSWs. A dedicated landing page was set up on HeHeF website together with a booking form linked to healthcare professionals who provided confidential interactions with the FSWs recruited and supported them to seek HIV services and other primary health services at sensitized clinics. Data were collected and analyzed on the output. Comparative analysis was carried out between physical contact and social media contact.

Lessons Learned: Results indicated a positive response to the social media initiative, with increased engagement and utilization of HIV services among FSWs. Total number of FSWs reached from February to July 2023 was 3412. (21% from February to April and 79% from May to July). Out of this, 3002 were engaged with messages. In-post links to health service providers was generated by 2674. Data collected also showed that social media reached out to more high risk FSWs than through physical outreach. 57% of new FSWs recruited through social media had never been tested for HIV compared with 33% reached via physical outreach. 61% of FSWs recruited on social media had non-paying partners whom they have unprotected sex with compared to 46% recruited through physical contact. Additionally, among 2100 FSWs who tested for HIV through social media; 370 were diagnosed HIV positive (17.6% HIV+ yield). Whilst, among 4960 FSWs who tested for HIV through physical

outreach; 298 were diagnosed HIV positive (6% HIV+ yield).

Next Steps: Social media in HIV service delivery has proven to be an effective tool of reaching high risk FSWs not traditionally accessed by peer educators. It should be adopted as an integral outreach approach for HIV prevention interventions moving forward. By embracing innovative strategies, including social media campaigns and peer-led interventions, we can bridge existing gaps in HIV services, reduce stigma, and ultimately contribute to the global goal of ending the HIV&AIDS epidemic.

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IMPROVING the Clinician-Laboratory Interface (CLI) In the Context of Cervical Cancer Diagnosis, Treatment and Monitoring among WLHIV at Busia HCIV

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Background: Prevalence of HIV remains high at 7.6% among women in reproductive health (Mayega., et al, 2023). Uganda had a population of 13.1 million women aged 15 years and above who are at risk of developing cervical cancer (UPHIA, 2020-2021 Report). Current estimates indicate, every year 6959 women are diagnosed with Cervical Cancer and 66% die of the disease. Cervical cancer ranks as the first most frequent cancer among women aged 15 and 44 years (The Uganda Human Papilloma Virus and related cancers fact sheet 2023).3.6% women in the general population harbor cervical cancer serotype 16 /18 infection which are responsible for 57.0% of invasive cervical cancer. Women living with HIV (WLHIV) have a 6-fold higher risk of developing Cervical cancer with 10 years earlier than the non-infected, hence require frequent screening every after 3 years.

World Health Organization recommends a self-collect cervical vaginal sample-HPV deoxyribonucleic acid (DNA) as a primary screening test for early diagnosis, Visual Inspection with Acetic acid (VIA) for triage after a positive HPV DNA before treatment. Despite the Ministry of Health Uganda policy recommendation of 100% target, Busia HCIV was at 50% CCS rate underpinned by low prioritization, limited qualified health personal, absence of CC friendly screening settings, prolonged results turnaround time which are unpinned by evidence of no structured and consistent CLI to create; awareness and adaption of the technique as a means of strengthening service delivery.

Methodology: In September 2023, site work improvement team institutionalized a robust interdisciplinary CLI Quality improvement change package; Client outcome focus, Enabling systems and process, Data management, Improved teamwork, this registered improvements in diagnosis, treatment, monitoring among WLHIV.

Results: CC screening among eligible WLHIV (site weekly target of 22) improved from 50% (11 out of 22) to 173% (38 out of 22). Positivity yield improved from 18% (2 out of 11) to 21% (8 out of 38). Treatment improved from 0% (0 out of 2) to 75% (6 out of 8).

Conclusion: Site level institutionalization of a robust CLI Intervention using a Quality Improvement approach increases HPV DNA CC screening, diagnosis, treatment and monitoring among WLHIV.

Recommendations: Health care providers and policy makers can ably adopt and scale up approach to increase CC screening, quality of care among WLHIV as an effort to expedite National gains around the 90-70-90 target by 2025.

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Beyond Medication: How Lighthouse Tisungane Clinic in Zomba, Malawi Champions Gender Equality to Help GBV Survivors Thrive in HIV Care

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Background: Malawi boasts high antiretroviral therapy (ART) coverage (97.7%) for HIV patients, yet gender-based violence (GBV) remains prevalent, with 34% of women aged 15-49 reporting physical violence, 14% sexual violence, and 23% emotional violence in the past year. Research links GBV to poor ART adherence among women living with HIV. To address this, Lighthouse Tisungane ART clinic integrated GBV care into its operations to enhance treatment adherence, ART retention, and HIV viral load suppression. This study aimed to evaluate the impact of post-GBV psychosocial services on ART outcomes among women survivors referred for management at Lighthouse Tisungane clinic in Zomba, Malawi.

Methodology: A retrospective review of medical records for GBV survivors referred for management between January and December 2022 was conducted. Data on age, and treatment outcomes (alive in care, transfers, deaths, viral load suppression) was extracted. Descriptive statistics and proportions were used for data analysis.

Results: A study examined 135 women who reported gender-based violence. Emotional distress was the primary reason for referral 67% (n=91), followed by combined emotional and physical abuse 27% (n= 36), and lastly, sexual and emotional abuse 6% (n=8). The majority of perpetrators were parents 64% (n=64), with intimate partners coming in second 25% (n=34) and others making up the remaining 11% (n=15). Before the interventions, 71% (n=96) displayed poor drug adherence, while only 29% (n=39) maintained good adherence. Nearly two-thirds 63% (n=60) of women with poor adherence

experienced high viral load at some point. Six months post interventions addressing the gender-based violence, 75% (n=45) with initially high viral load achieved re-suppression. Nearly all women 95% (n=128) stayed in care, while a small number 5% (n=7) transferred, and no treatment stoppages or defaults occurred.

Conclusion: Our study found that interventions addressing the violence were successful in improving health outcomes. Despite high rates of initial medication non-adherence, interventions helped many women achieve viral load re-suppression and remain in care.

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Exploring Trauma Healing Preferences: Findings from the Trauma- and Violence-Aware Care (TVAC) Mixed Methods Survey

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Background: Rates of trauma and/or violence in the lives of women with HIV are high and can have detrimental health and social impacts. To inform the design of trauma and/or violence healing programs, we surveyed women and gender diverse people to gather insights on the optimal design, delivery, and essential components for effective programs.

Methods: Informed by intersectionality and community-based research approaches, we developed a mixed methods, strengths-based survey. Women and gender diverse people with HIV in British Columbia and Ontario were recruited through clinics, health organizations, and by community research associates (CRAs; women with HIV trained in research). CRAs administered the

surveys in one-on-one interviews with participants. Qualitative responses were typed or recorded and transcribed according to participant preference. In this presentation, we share our preliminary descriptive statistics and content analysis.

Results: 115 women and gender diverse people (82.6% cis, 17.4% gender diverse) were surveyed (median age=49, range=20-81). 22% identified as African, Caribbean and/or Black, 48% as white, 28% as Indigenous and 3% as other. 77% of participants reported childhood trauma and 96.5% reported adulthood trauma, however few participants (12.1%) always received the professional support they desired. Of those who had previously tried activities for their mental health and trauma healing (57.3%), the top activities would do again included: exercise (94.8%); nature activities (84.3%); art, crafting, and/or art therapy (77.4%); music/music therapy (77.4%); and religious/spiritual engagement (73.9%). Participants felt it was important for programs to: be cost-free (85%); include food (75.7%) and transportation (71.3%); be population-specific [e.g., only women (56.5%) or people with HIV (67.0%)]; involve loved ones (68.7%); and be peer-led or have peer-involvement (80.9%).

Conclusions: Most participants had experienced both childhood trauma (events that could be classified as adverse childhood events; ACE) and adulthood trauma. Professional support options were often inaccessible or unhelpful. Therefore, increased accessibility for diverse TVAC programming that supports healing is urgently needed. Our findings offer crucial insights to shape meaningful trauma and/or violence healing programs for women with HIV, including the necessary inclusion of women and gender diverse people in their design and delivery.

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Abstract 21 was withdrawn.

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Influences of Gender-Based Stigma on HIV Prevention and Care among Older Women

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Background: Over half of women living with HIV are over age 50. Older women with HIV live at the intersection of multiple marginalized identities and experience a unique combination of sexism, ageism, racism, and HIV-related stigma. As a result of the cumulative effects of these oppressive systems, older women with HIV are an especially invisible and vulnerable population who are often overlooked in HIV prevention and care. We conducted this scoping review to synthesize and identify gaps in the existing research on gender-based stigma and how it relates to HIV prevention and management among older women living with HIV.

Materials and Methods: We conducted this scoping review following the best practices guidance of the Joanna Briggs Institute (JBI) and the Preferred Reporting Items for Systematic Review and Meta-Analysis (PRISMA) Extension for Scoping Reviews (PRISMA-ScR). We systematically searched MEDLINE/PubMed, Web of Science, PsycINFO, CINAHL, and Scopus using combined keywords related to aging, HIV/AIDS, and gender-based stigma (i.e., devaluation, prejudice, and harassment/discrimination based on one's sex, gender identity, or gender expression). Two reviewers independently screened all titles, abstracts, and full texts. Conflicts were resolved through group consensus. We included articles that 1) included women aged 50+ years and 2) explicitly addressed gender-related issues impacting HIV outcomes, including stigma, discrimination, sexism, harmful gender roles, and harmful stereotypes.

Results: Our search yielded 876 titles, of which 25 articles describing 22 unique studies met our inclusion criteria for data extraction. Thirteen studies were conducted in North America, two in South America, five in Africa, one in Australia, and one in Europe. Most studies were qualitative

(68.2%; N=15) using focus groups or individual interviews. Six studies (27.3%) used cross-sectional quantitative analyses, and one study used mixed-methods. Gender-based stigma was predominantly conceptualized using open-ended interview/focus group questions (72.7%; N=16). Guided by the National Institute of Minority Health and Health Disparities Research Framework, we identified the following outcome domains reported in relation to gender-based stigma: psychological (e.g., shame, guilt), biological (e.g., stress), HIV knowledge/attitudes, HIV risk/vulnerability, behavioral (e.g., HIV testing, condom use), sociocultural environment (e.g., discrimination, interpersonal relationships), and healthcare system (e.g., provider communication, care retention). Gender-based stigma was most frequently discussed as influencing behavioral outcomes (N=11), such as preventing older women from negotiating condom use in heterosexual romantic relationships and asking a partner about their HIV status, followed by sociocultural environment (N=7) and HIV risk/vulnerability (N=7).

Conclusions: Our findings suggest gender-based stigma exists at multiple levels (individual, interpersonal, and societal) to adversely impact HIV prevention and treatment among older women. Despite limited quantitative evidence, rich qualitative findings highlight that gender-based stigma is pervasive and manifests in similar ways among the lives of older women across geographic locations. Outstanding questions remain on best methods for measuring and conceptualizing gender-based stigma in HIV/AIDS research and ways to translate these findings to best research and clinical practices to improve quality of life and well-being for older women.

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An Arts-Based Narrative Inquiry: Naming HIV to Children - Young People and Parents Share the Stories That Matter to Inform Future Practice.

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Background: HIV is a chronic health condition which can be managed well if effective treatment is accessible. Children living with HIV are likely to have acquired HIV from their mother in pregnancy, at birth or through breastfeeding (perinatally acquired). Children are not routinely told they are HIV positive. Stigma, fear and guilt are barriers echoed by parents and professionals. This must be balanced by the child's right to know.

This study used arts-based narrative inquiry to explore the stories of young people who have experienced the process of being told they are HIV positive and parents whose child has perinatally acquired HIV and is aware of their HIV diagnosis. Sixteen young people and ten parents have shared their experiences through participation in a focus group.

Methods: Recruitment occurred via voluntary sector organisations in the United Kingdom. Four focus groups were conducted in England. Two for young people and two for parents. Participants took part in one of four focus groups. Participants in the young people's focus groups were living with perinatally acquired HIV and aged between 15 and 21. 11 participants in the young people's groups were born in the UK. 2 participants in the parent's group were born in the UK. Participants used arts to create something of their choice. The creative piece gave participants a voice and enabled people to share their own stories. The focus group discussions were recorded. Reflexive thematic analysis was used to analyse the data.

Results: Creative pieces made by participants included masks and boxes illustrating the perceived need to hide HIV.

Participants in the young people's focus groups found out they were HIV positive between the ages of 8-13. There is a clear consensus that finding out younger is better. Some participants were told at a hospital but the majority at home. Young people wanted to be told about their HIV diagnosis at a younger age.

Parents reported the feelings and emotions they experienced before and after their child had HIV named. These include feelings of fear and guilt. Parents report relief and calm once their child had HIV named. Young people highlighted parents feelings and emotions as barriers to HIV naming and drivers of self-stigma. Young people provide clear positive and supportive messages for mothers that they have been unable to share. The language used and heard when talking to children about HIV can play a role in negative emotions,

self-stigma and stigma. Secrecy within the family home is common and can exacerbate self-stigma. Stigma is an overarching theme and many participants reported experiencing stigma which directly links to challenges in sharing their diagnosis, negative experiences in schools and difficulty adhering to medication.

Conclusion: Findings highlight that children need to be informed about their HIV diagnosis at a young age. Parents require appropriate support on this journey. The untold messages from young people to mothers highlighted within the data need to be shared. The data will inform resource development to support families. Public awareness and education are urgently required to reduce stigma.

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Toxicity-Associated Discontinuations of Dolutegravir-and Bictegravir-Based Antiretroviral Treatment Regimens in Females Compared to Males: A Systematic Review and Meta-Analysis

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Background: Second-generation integrase strand transfer inhibitors dolutegravir (DTG) and bictegravir (BIC) are the latest anchor drugs recommended as a part of first-line HIV antiretroviral treatment (ART) regimens and are widely used globally. Despite excellent efficacy in

HIV virologic suppression, general toxicity-associated and neuropsychiatric safety signals have increasingly emerged for these ART. Although several studies report increased frequency of side effects in females, the literature is inconclusive and subjective when evaluating sex-based differences in DTG and BIC toxicities, often lacking objective comparisons of toxicity. To address this knowledge gap, we conducted a systematic review and meta-analysis to synthesize existing knowledge on sex-disaggregated toxicity leading to discontinuation in females vs males living with HIV receiving DTG- or BIC-based ART.

Methods: We searched Embase, Medline, Web of Science, and Scopus for reports published from January 2010-May 2023. We included randomized controlled trials and observational studies that reported sex-disaggregated data (raw numbers or hazard/risk ratios) on discontinuations of DTG/BIC-based regimens due to general toxicity or neuropsychiatric side effects. We excluded studies describing pregnancies, post-partum, pediatrics, co-infections, and DTG/BIC monotherapy. Screening and data extraction were done using Covidence by two reviewers. Studies reporting raw DTG discontinuation data by sex were further included in meta-analyses of discontinuation for general toxicity and neuropsychiatric side effects. The protocol was registered on PROSPERO and the PRISMA checklist guided every step of the review.

Results: Among 4179 abstracts screened, 505 underwent full-text review and 17 were included in the systematic review (15 DTG and two BIC). Notably, in full text review, 287/505 reports (57%) were excluded due to the absence of sex-disaggregated reporting of discontinuation. Fifteen DTG studies that included treatment-naive and experienced participants from six European countries reported on the outcomes from 32,352 people living with HIV, of whom 7,506 were females and 24,846 males. Meta-analysis of pooled data from seven studies showed increased odds of DTG discontinuation due to general toxicity in females (355/3811; 9.3%) vs males (1057/14,074; 7.5%; OR 1.40 [1.23-1.59], $p < 0.001$). A second meta-analysis examining discontinuations specific to neuropsychiatric side effects from six studies showed no sex-related differences (discontinuations 3.5% in females vs. 3.3% in males; OR 1.14 [0.84-1.56], $p = 0.40$). Only two BIC studies met inclusion criteria and findings were conflicting. One reported three times higher discontinuation hazards for female participants and the other reported no difference between sexes.

Conclusions: Herein, we report a signal of higher discontinuation rates of DTG due to side effects in participants of female sex, a finding that may reflect an overall heightened toxicity experience for females taking DTG. This effect does not seem to be driven by neuropsychiatric side effects. Further studies investigating the types of toxicities driving sex/gender-based differences, including metabolic toxicities, are needed. Our observation of the lack of sex-disaggregated reporting demonstrates a missed opportunity to better understand sex-specific differences in ART safety and tolerability, a priority given the systematic underrepresentation of females in ART-related clinical trials.

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Accumulating Safety Data for Antiretroviral Therapy In Pregnancy: Increasing reporting to the Antiretroviral Pregnancy Registry

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Background: The exclusion of pregnant women from many clinical trials evaluating antiretroviral therapy (ART) leads to substantial delay in obtaining safety data for use in pregnancy. This results in clinicians avoiding newer, potentially more effective and less toxic ART, not only for pregnant women but also for women of reproductive age with HIV. The Antiretroviral Pregnancy Registry (APR) is the largest international exposure registry of ART use in pregnancy, with 70% of reports coming from clinicians in the United States. This project aimed to explore barriers to reporting from other high income settings such as Australia, as an example of how international reporting could be increased to facilitate the accumulation of safety data for women with HIV. By increasing the number and timeliness of reports we hypothesise that women with HIV of reproductive age may have earlier access to newer ART.

Methods: We surveyed HIV providers across Australia who care for women with HIV or their children. The survey was distributed by email to clinicians through the two peak infectious diseases societies in Australia (Australasian Society for Infectious Diseases, and Australasian Society for HIV, Viral Hepatitis and Sexual Health Medicine). The survey assessed clinician awareness of and barriers to reporting to the APR. Statistical analyses were descriptive, using Microsoft Excel. We also established a national network of HIV providers interested in reporting to the APR, with the aim of supporting them to establish reporting through their health services.

Results: Eighty clinicians completed the survey. More than half of respondents (38/73, 52%) were aware of the APR, and only 10% (8/80) had ever contributed data. The identified barriers to contributing data were (i) lack of knowledge that clinicians outside the United States could contribute, and how to contribute (ii) feeling their individual contribution would be insignificant when each provider only cares for small numbers of pregnant women (iii) consent and ethics committee requirements. In relation to actual reporting to the APR, the major barrier in Australia was not clinician dependent, but rather related to ethics and privacy associated with transfer of data internationally. The waiver of consent in the United States was not recognised by Australian authorities and Human Research and Ethics Committees as sufficient in relation to Australian data protection standards. This resulted in additional agreements being required between individual health services and the APR imposing significant barriers to future reporting.

Conclusions: Clinicians from countries outside the United States are likely to face similar challenges in contributing data to the APR which currently limits the accumulation of safety data of ART use in pregnancy. We are collaborating with the APR to address these barriers, and anticipate this will pave the way for the APR to support clinicians in other countries outside the United States to contribute to this important registry for women with HIV.

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Gender-Based Violence Experience and HIV Treatment Outcomes Among Females on Anti-Retroviral Therapy

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Introduction: Gender-based violence (GBV) and HIV intersection have remained interconnected public health challenges that have negative consequences in the pursuit of ending new HIV infections and AIDS by 2030. The study conducted in Abia State Nigeria aimed to assess the association between GBV experience and HIV treatment outcomes among female participants on Antiretroviral Therapy (ART).

Methodology: Employing a cohort study design, 3889 ART naïve females aged 16 years and above were enrolled and followed for 18 Months and outcomes were assessed, including viral suppression, opportunistic infections, and viral rebound. Descriptive and inferential statistics were conducted, and covariate analyses explored the influence of various factors on the outcomes.

Result: The majority of the study participants were aged 26-35 (34%), most of them had secondary education (39%) and 41% were living in rural areas. Out of the 3889 females included in the study, 288 reported GBV experience. Correlation analyses showed negative associations between GBV experience and viral suppression ($r = -0.65$, $p < 0.001$) and positive associations with opportunistic infections ($r = 0.42$, $p < 0.001$) and viral rebound ($r = 0.35$, $p < 0.001$). Covariate analyses identified economic status, having an HIV-positive child, and duration on ART as significant factors influencing HIV treatment outcomes among female GBV survivors. Also, was associated with adverse outcomes.

Conclusion: The study suggests that experience of GBV is likely to cause poor HIV treatment outcomes among females on ART, including lower rates of viral suppression and higher rates of opportunistic infections and viral rebound. These findings call for the development of targeted

interventions and support services for individuals female GBV survivors living with HIV.

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Fading Identities in the COVID 19 Era; Improving Access to Gender Affirming Care and HIV Services for Transgender Women and Men in Malawi.

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Background: The COVID-19 pandemic exacerbated healthcare challenges for transgender people, especially access to essential services like gender-affirming care and its link to HIV services in Malawi. Pandemic-related lockdowns, restricted travel, and limited imports of non-essential drugs and medications (including gender-affirming medications) between 2020/21 had a negative impact on transgender people who were dependent on hormonal use. The cessation of routine doses had serious physical and mental health consequences, discouraging many people from seeking HIV services and care.

Description: Recognizing these difficulties, a collaborative effort between two medical practitioners and a local transgender group addressed the crisis by providing hormone access to 25 transgender women and 20 transgender men. This initiative ensured an uninterrupted supply of routine doses and distributed essential HIV services such as self-test kits, condoms, and lubricants thanks to a global COVID-19 Emergency Response grant from Outright Action International. This intervention not only restored access to essential healthcare but also highlighted the importance of understanding the interactions between hormone treatments and HIV medications to avoid the discontinuation of ART or PrEP.

Lessons learned: This trailblazing initiative, led by medical professionals, not only provided critical healthcare but also dispelled myths that prevented transgender people on hormones from accessing

HIV services. The study emphasized the critical role of hormonal treatments in enabling transgender people to access HIV services, as well as the critical need for inclusive healthcare policies that address the marginalized based on gender identity.

Conclusion: To ensure that this marginalized group is not excluded from care, transgender considerations should be incorporated into future pandemic planning and emergency response frameworks. To support equity and ensure broadened gender-responsive pandemic plans for the Ministry of Health, urgent advocacy and gender affirmation therapy integration into HIV programming is required.

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Prevalence and Predictors of HIV Virologic Failure Among Adolescents on Antiretroviral Therapy at Kcmc and Mawenzi Hospitals, Kilimanjaro-Tanzania

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Background: Despite the availability and use of ART in most parts of the world, virologic failure is still a problem especially among adolescents who are on ART. Several interventions have been put into actions to improve viral suppression but it has only been achieved to a greater percent among adults while adolescents fall behind. The study aimed to determine the prevalence and determinants of virologic failure among HIV positive adolescents under ART and came up with appropriate measures that will address treatment failure and prevent unnecessary switch to second line regimens.

Methods: A cross-sectional design conducted at KCMC and Mawenzi Hospitals in Kilimanjaro Region. The study population was HIV adolescents attending CTC clinics, Questionnaires were administered, data was prepared, cleaned and entered into SPSS Software Version 25 to obtain prevalence and predictors of virologic failures.

Results: A total of 216 participants enrolled. Their median age was 17 (IQR 14-18); 60.2% were males and 39.8% were females. Of total, 13.9% had VF. After adjustment of other covariates, the likelihood of having VF was higher among adolescents who were consuming alcohol (RR= 3.49, 95% CI 1.58-7.72), smoking cigarette (RR= 7.0, 95% CI 4.19-11.69), poor ART adherence (RR= 14.46, 95% CI 7.63-27.3) and having HIV/TB co-infection (RR= 1.43, 95% CI 0.55-3.70).

Conclusions: The proportion of adolescents living with HIV in this study who were virally suppressed was relatively high at 86.1%. However, this proportion falls short of the UNAIDS' 95% target for on treatment viral suppression. Findings from this study indicate that programs targeting younger adolescents and adolescents in transition from pediatric to adult clinics with a range of interventions including psycho-socio support and treatment counselling could further improve viral suppression outcomes among this young population

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Influence of HIV/AIDS on Cervical Cancer in Rwanda

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Background: Cervical cancer is the second most commonly diagnosed cancer and the third leading cause of cancer death in women worldwide. Rwanda is among high burden cervical cancer countries with an incidence of 1229 new cases and a mortality of 829 cases/year. HIV-related risk factors, such as immunodeficiency and chronic persistence of infection play an important role in its pathogenesis.

The objective was to assess the risk of cervical cancer among HIV positive women and enhancing early detection and treatment for those positive in AHF supported sites.

Methods: A screening and treatment campaign for cervical cancer was organized among 38 sites supported by AHF-Rwanda scattered in all provinces of the country. 11,181 women aged between 20-60 were screened using HPV-DNA test over the course

of four months. The samples were either self-taken or taken by a healthcare provider. Women were grouped according to their HIV status.

Results: A total of 11,181 eligible women were screened, among them 8,107 (72.5%) were known HIV positive, overall of 2,556 (31.5%) were screened HPV positive and of these 2,304 (80%) were HIV positive. The HPV positivity rate among HIV positive women (28.5%) is more than double in general population at 10%. All HPV positive were screened through Visual Inspection with Acetic Acid (VIA) and among them 1372 (80%) were treated with Thermo ablation at respective Health facility and 96 (4%) were found with pre cancer lesions or other complication and were transferred to gynecologist for Loop Electro surgical Excision Procedure (LEEP) or further management.

Conclusion: HIV/AIDS has an important influence on cervical cancer prevalence (27%), compared to 10% at national level and a great influence on development of precancerous lesions (81%) in HIV positive women to 19% in HIV Negative women. HPV positivity rate is directly associated with low age (32%) in less than 25 years while less than 25% in the remaining age group. The assessment of association of HIV conditions and HPV acquisition is recommendable.

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High Proportion of Recent HIV Infections Among Women of Reproductive Age; An Analysis of Recency Testing Data in Zambia.

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Introduction: Recency assays use one or more biomarkers to identify whether HIV infection in a person is recent (usually within a year or less) or longstanding. Recency assays have been used to estimate incidence in representative cross-sectional surveys and in

epidemiological studies to better understand the patterns and distributions of new and longstanding HIV infections.

In Zambia the recency testing program was launched in 2020 and over 120,000 samples have been tested cumulatively. We analyzed recency testing data to better understand the transmission patterns of HIV across geographical area and subpopulation and to monitor the proportion of the population living with HIV who are diagnosed early versus late in infection.

Method: We extracted a total of 124,463 records from the 10 provinces of Zambia participating between 2020 and 2023. Records that were found to be recent by the screening test but did not have the confirmatory test result were excluded. The PEPFAR Monitoring, Evaluation and Reporting version 2.7 definition was used to assign recency result as binary variable (recent or long-term) after the confirmatory test result came back. We further analyzed result by sex, age category and testing delivery entry point.

Results: Total recent infections were 5,706 out of the 124,463 (4.6%). Females were found to be having a recent infection in 5.1% of samples as opposed to males (3.6%). The entry point with higher percentage was PMTCT (6.2%) and lowest was Index testing at 3.7%. Young ages are associated with a higher proportion (15-19 yrs at 10.4%; 20-24 yrs at 7.8%, compared to 40-44 yrs at 2.6% and 45-49 yrs at 2.1%)

Conclusion.: This analysis revealed that adolescent and young people as well female of reproductive age are found with recent HIV infection in Zambia. This data correlate with findings from 2021 Population based HIV Impact Assessment that shows high HIV incidence among female and adolescent and young people. While further analysis are needed to better understand social demographic factors linked with HIV transmission in this population; findings from this study justifies the urge to scale up age and population specific HIV prevention interventions in Zambia.

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Prevalence of Major Sexually Transmitted Infections among Indian Women: Findings from a National Reference Laboratory

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Introduction: Sexually transmitted infections (STIs) are a substantial economic burden and public health concern, especially in developing South Asian nations, resulting in morbidity, mortality, stigma and unfavorable reproductive health outcomes in both men and women. On estimation, 3 crore cases of STI/reproductive tract infection (RTI) are recorded every year in the country as per a report by Indian Council of Medical Research. STIs can affect genital and extragenital sites in women. Untreated infections in the female genital tract, can give rise to complications such as pelvic inflammatory disease, infertility, ectopic pregnancy, chronic pelvic pain, cervical cancer, and urethral stricture. The impact on fetuses and newborns can be devastating, as manifested by miscarriages, stillbirths, neonatal deaths, mental retardation, neonatal conjunctivitis, and pneumonia. Regular STI screening helps in understanding the trends and transmission of STIs which can be controlled by appropriate treatment measures.

Materials and methods: This study aimed to understand the patterns of major STIs and their prevalence among women attending STI clinic of a tertiary care hospital in India over a period of six months. The study was conducted at Apex Regional STD centre (National reference centre for STIs, India) Department of Dermatology and STD from 01 July 2023 to 31 Dec 2023. Symptomatic women clients visiting the STI OPD clinic were directed to undergo appropriate laboratory diagnosis on the basis on the symptoms followed by sample collection.

Results: Over a span of 6 months, a total of 2,542 women visited the STI OPD clinic due to symptoms associated with genital tract infections. Among them, 648 females reported being diagnosed with at least one STI/RTI, indicating a prevalence of 25.43% of STI/RTI among Indian women. There

were no instances of co-infection. A large proportion, 62.19% women were infected with syphilis, while a mere 0.77% of cases were identified as Genital Ulcer Disease - Herpetic syndrome. Investigations carried out on vaginal or cervical discharge revealed varying positivity rates: *Candida* species exhibited an 11.26% positivity rate, and bacterial vaginosis had an 18.05% positivity rate. Interestingly, there were no cases of *Neisseria gonorrhoea*, *Trichomonas vaginalis* or *Chlamydia trachomatis* infections reported among the women who visited the clinic throughout the 6-month period. Furthermore, a total of 7.71% of females were infected with Hepatitis B or Hepatitis C.

Conclusion: Women are a core group vulnerable to gonorrhoea. STI cases among women are considerable and are increasing during the modern times. This data sheds light on the prevalence of different STIs among the female population attending the clinic. The findings indicate a notable predominance of syphilis cases. This data underscores the significant prevalence of STIs among the women in a developing country. The findings suggest the importance of targeted interventions and heightened awareness campaigns focusing on the prevention and management of prevalent STIs. Regular screening helps in understanding the trends and transmission of STI cases, which can be controlled by appropriate treatment measures.

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Prevalence and Associated Factors for Trichomonads in Brothel Based Female Sex Workers (BBFSW) in Jos, Nigeria

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Background: *Trichomonas vaginalis* is a common nonviral sexually transmitted infection (STI) and known to increase HIV transmission, other STIs and adverse pregnancy outcomes. The associated factors for this important STI are not well-known in the population of women who have sex for money. We sought to analyze a sample population of brothel based female sex workers (BBFSW) in Jos, Nigeria to understand the prevalence and associated factors for this common STI.

Methods: Between September and December 2020, a sample of BBFSW participated in a cross-sectional study in Jos, Nigeria. An interviewer-administered questionnaire was used to obtain information on sociodemographic, sexual and reproductive history of the participants. *Trichomonas Vaginalis* was detected by Multiplex polymerase chain reaction using the Allplex™ STI Essential Assay (Seegene, Seoul, South Korea, distributed in France by Eurobio Laboratories, Courtaboeuf, France), which also simultaneously detected six other microorganisms in same sample. Participants were screened for *Chlamydia trachomatis*, *Neisseria gonorrhoeae*, *Mycoplasma genitalium*, *Mycoplasma hominis*, *Ureaplasma parvum*, *Ureaplasma urealyticum* and *Trichomonas vaginalis*, HIV and hepatitis B viral infection. The data was analyzed for descriptive statistics and measures of association with Trichomonads. Statistical analyses were done on Stata version 15.1SE.

Results: A total of 175 BBFSW were screened for T vaginalis and other STIs. The prevalence of *Trichomonas vaginalis* was 16.5% (95%CI: 11.7-22.8). The prevalence of other STIs were, HIV:22.3% (95%CI: 16.7- 29.1); *Ureaplasma urealyticum*:49.7% (95%CI: 42.3- 57.1), *Mycoplasma hominis* 47.4% (95%CI: 40.1 -54.9), *Mycoplasma genitalium* 14.8% (95%CI: 10.3- 20.9) and Hepatitis B virus infection 5.7% (95%CI: 3.1-10.3). The mean age of the participants positive for T vaginalis was 27.6±6.9 years and participants negative for T. vaginalis was 29.9±6.2 years. Forty-nine (49%) of the participants were single, 58% had secondary level of education, 16% have reported history of substance abuse and 80% have reported ever receiving treatment for STI. Almost half of the participants positive for T. vaginalis were <18years, HIV negative, and consumed alcohol but this was not statistically significant. About a third (27%) of the participants with T. vaginalis smoked cigarettes ($p = 0.009$). There was no association between HIV and T. vaginalis infection from this study, COR=1.1 (95% CI: 0.4-2.9), p-value=0.821.

Mycoplasma hominis infection was associated with 6.2 increased odds of being concurrently diagnosed with *T. vaginalis* (aOR 6.2, 95%CI 2.1-18.0). Infection with hepatitis B virus was associated with a 9.1 increased odds of concurrent *T. vaginalis* infection (aOR 9.1, 95% CI 1.8-44.6).

Conclusion: The prevalence of *T. vaginalis* among BBFSW was high. HIV infection was not significantly associated with Trichomonads infection, but a strong and significant association was seen with *Mycoplasma* and hepatitis B viral infection. Screening for these STIs in high-risk sex workers and their partners could have significant public health benefits.

Keywords: Female sex workers, *Trichomonas vaginalis*, HIV.

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Partner Notification and Sexual Behaviour among Women with Sexually Transmitted Infections Attending Community Pharmacies in Uganda

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Background: Globally, women continue to be disproportionately affected by sexually transmitted infections (STIs), that mostly remain asymptomatic, cause diverse morbidity, associated sequelae and are believed to be fuelling the HIV epidemic in Sub-Saharan Africa. Partner notification, treatment completion and safer sexual practices/abstinence are recommended for all persons diagnosed with an STI. Multiple barriers affect disclosure that leads to reinfection, onward transmission as well as sequelae of chronic infection in women. We assessed sexual practices and Partner notification among women diagnosed with an STI so as to prevent morbidity.

Methods: A prospective cohort study was conducted among 450 persons seeking health care services from private community pharmacies in Kampala and Wakiso districts in Uganda. 264

women seeking services for STI-like symptoms, Emergency contraception and other ailments were enrolled, a questionnaire administered, and samples collected for STI testing using point of care tests and confirmatory laboratory testing, if necessary. Participants were followed up on days 30 and 90 to ascertain treatment completion, symptom resolution, sexual behaviour and partner notification. Only participants who tested positive for HIV and any of the curable STIs of *Neisseria Gonorrhoea* (NG), *Chlamydia Trachomatis* (CT), *Trichomonas Vaginalis* (TV) and Syphilis at baseline were considered for this analysis. Descriptive analysis and a multivariable Logistic Regression model were used to describe demographic and behavioural participant's characteristics and identify correlates of partner notification.

Results: Of the 264 women enrolled and tested for HIV and STIs in the study, 63 tested positive for at least one STI as follows, Syphilis 10, NG 9, TV 22, CT 17 and HIV 21. Median age was 24 (IQR 17-56). All participants received treatment following a laboratory confirmed STI. 86% of participants completed STI treatment, while 96% reported symptom resolution. 46 (73%) of women notified their partners about their STI diagnosis with 84% of these notifying the main partner, 10% the casual partner and 6% both. Participants that did not notify their partner cited embarrassment, fear of relationship breakup, not planning to see them again and lack of disclosure skills as reasons for non-disclosure. 47.2% of women were sexually active following diagnosis, with only 11 (64.7%) using condoms while 17.7% of these women reported more than 1 partner and some being new. Women who had 1 sexual partner ($p < 0.001$), those who completed the prescribed treatment ($p=0.01$) and those who used condoms ($p < 0.01$) were more likely to disclose. At multivariate analysis, persons with one partner were associated with disclosure (aOR = 5.02, 95% C.I 1.46-15.21, $P=0.01$); after adjusting for sexual behaviour.

Conclusion: Factors leading to non-disclosure were having more than 1 sexual partner and failure to complete treatment. More research is needed to establish if partner notification can be augmented by strategies that reduce HIV/STIs, encourage monogamy and provision of correct STI treatment to women. Interventions to achieve optimal treatment for symptom resolution, prevention of risky sexual behaviour and partner notification are warranted.

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Knowledge and Awareness on Sexually Transmitted Diseases (Stds) Among Women in Kerala

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Background: Knowledge and awareness concerning sexually transmitted diseases (STDs) has become the burning issue of the day. Although STDs pose serious risks to health security, there is very little literature quantifying the knowledge and awareness of these diseases and their principal socioeconomic determinants. The aim of this study is to determine the effect of different socio-economic and demographic factors on knowledge and awareness about STDs among women in India.

Methods: This is a cross-sectional study using data from the Demographic and Health Survey (DHS) 2020. It involves 945 women in six districts of Kerala, India. In this study, the percentage distribution and logistic regression model are used to identify which factors are associated with knowledge and awareness among women in Kerala about STDs.

Results: There is a significant association between geographic division (District 1 : OR = 1.669, 95% CI = 0.89-2.10, District 2: OR = 2.234, 95% CI = 1.2-3.2); places of residence (Rural: OR = 0.363, 95% CI = 0.20-1.08), respondent's age (20-29 years: OR = 1.331; 95% CI = 0.98-2.31); education (Primary: OR = 2.366, 95% CI = 1.98-3.1, secondary: OR = 10.089, 95% CI = 8.98-12.77, higher: OR = 20.241, 95% CI = 18.33-22.65); listening to radio (OR = 1.189, 95% CI = 1.29-3.12) and watching TV (OR = 2.498, 95% CI = 2.22-4.09) with knowledge and awareness among women in Kerala, India about STDs.

Conclusion: There is a need to improve the education in India about STDs particularly among those in the rural areas and older ages of women (30-49 years). Formal, informal and special educational knowledge and awareness programmes may be implemented to educate people concerning STDs. Campaigns and mass media can be used to increase the knowledge and awareness among the community, especially among women. Policies concerning the issue of

STDs need to be improved and can be emphasized in collaboration with government agencies to ensure the success of these campaigns.

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Significant Obstacles to Women Commercial Sex Workers' (Wcsws') Access to HIV and STD Programs During the COVID-19 Pandemic in Rajshahi, Bangladesh

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Background: With the nation's attention and resources focused on COVID-19 prevention and response efforts, the nation has witnessed widespread disruptions to HIV control programs nationally with shortages in medical supplies, treatments, and diagnostics. Women Commercial Sex Workers (WCSWs) who engage in hazardous sexual activity run a much higher risk of contracting HIV and other STDs. Testing and counseling are essential components of behavior change, treatment admission, and aftercare. The purpose of this exploratory study was to investigate barriers to WCSWs accessing, utilizing, and remaining in treatment and to document how the country handled the requirements of WCSWs during the COVID-19 pandemic.

Methods: The study was conducted from July 2021 to December 2022) in Rajshahi, Bangladesh during the peak of the COVID-19 pandemic. The study involved: (1) a review of official orders/statements issued by the Ministry of Health & Family Welfare (2) Face-to-face interviews with 670 WCSWs and age group of 18-49 years; (3) Face-to-face interviews with 23 service providers; (4) Face-to-face and telephone interviews with 24 key informants; and (5) a one-day negotiation workshop with 40 participants representing both WCSWs and service provider interest. This was held to review and discuss the findings of the research aims of the study and to identify and discuss options for screening, testing, and treatment services for a future pandemic.

Results: The WCSWs mentioned that they had no access to healthcare facilities for 18 months. No instructions or even minimum information were given to WCSWs with HIV/STD and attitudes to WCSWs were highly intolerant and hostile. HIV/STD testing is recommended at least annually for persons who are at continued risk of infection. Moreover, HIV-positive WCSWs may be more likely to be co-infected with HCV. Over 80 percent of the total sample reported having no test for HIV, hepatitis C, or hepatitis B. When the health service facilities opened for other communicable diseases, HIV status was reported by 4 percent of the sample, whereas 18 percent reported being positive for hepatitis B and 12.5 percent for hepatitis C. The service providers identified several specific practical barriers at the organizational level. The government's failure to apply a justice lens in implementing its response to the nation's inept healthcare systems was pointed up by the key informant interviews and service providers.

Conclusion: Public health experts and HIV/STD service providers need to be aware of how the COVID-19 pandemic has affected HIV/STD care and be ready for any rises in HIV/STD-related morbidity and mortality in the upcoming years. The government will need to focus on identified policy and programmatic priorities for urgent HIV/STD screening, diagnosis, and treatment as well as educating patients and healthcare providers about COVID-19's impact on sexual health services. This study also indicated the need for a resilient and people-centric, integrated health system supported by sufficient and sustainable funding, a competent health workforce, and enabling legislative and regulatory frameworks to achieve the 90-90-90 targets to end AIDS as a public health threat by 2030.

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Innovative Community-based HIV Testing among Adolescents Aged 15-19 in Cameroon: Utilizing HIV Self-Tests as an Advanced Strategy

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Title: Innovative Community-based HIV Testing among Adolescents Aged 15-19 in Cameroon: Utilizing HIV Self-Tests as an Advanced Strategy

Problem Statement: Community-based HIV testing using self-tests among adolescents aged 15-19 represents an innovative approach to promote early HIV testing with active participation of Teenagers Mentors (TM). In Cameroon, the minimum age to undergo HIV testing without parental consent is 18 years. However, many young individuals become sexually active at an early age, highlighting the importance of accessible sexual education and early testing to prevent HIV transmission. This study presents the results of a community-based testing strategy utilizing HIV self-tests among vulnerable adolescents during the third quarter of 2022, as part of the NFM3 project implemented by ReCAJ+.

Methodology: The intervention was conducted in the 10 regions and 40 health districts, targeting vulnerable adolescents aged 15-19. Due to age-related restrictions, adolescents and young people living with HIV (TM) conducted home visits to raise awareness and offer HIV self-tests. Testing was performed with oral consent from parents/guardians.

Results: A total of 2,620 adolescents were sensitized and tested using self-tests under the supervision of peer educators. Among them, 72 obtained reactive results, while 2,548 were non-reactive. Out of the 72 reactive cases, 64 were confirmed positive after confirmation tests at healthcare facilities, and all were initiated on antiretroviral therapy (ART). The positivity rate was 2.4%, and a 100% linkage to treatment rate was observed.

Conclusion: Community-based testing utilizing self-tests presents a valuable opportunity for adolescents to access confidential, accessible, and autonomous HIV testing, despite age-related restrictions. This promotes early detection of HIV, awareness, and appropriate management while respecting the confidentiality and rights of adolescents.

Keywords: HIV self-test, TM, consent, adolescent, HIV, healthcare facility.

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The Children of Female Sex Workers (CFSWs): A “New” Key, Vulnerable and Underserved Population

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Background: In the past decades, interventions to end HIV/AIDS have been concentrated on FSWs, with minimal attention paid to the risks faced by their children. Due to their exposure to a wide range of social and economic vulnerabilities, these children are a vulnerable group. They live in extreme poverty, experience food insecurity, poor access to pediatric health, and are at increased risk of HIV exposure, as well as physical, emotional, and sexual violence, lack of family support and school dropout.[1] Many of these risks are the result of stigma, discrimination, and social exclusion due to their mothers' sex work. For female children, to FSWs, they are likely to become FSWs when they come of age and further worsening their vulnerabilities.

Methods: The USAID CHEKUP II Activity, implemented by John Snow Health Zambia employed a bi-directional linkage model to strengthen referral pathways for FSWs and their children. We utilized KP community structures to reach FSWs by surging index case testing, screened and elicited for CFSWs. To optimize 'know your child health status', we introduced bidirectional linkage for the CFSWs. The elicited CFSWs received free health and high impact HIV testing services with additional OVC, economic strengthening and mental health services. The model involved strengthening referral pathways between community cadres, OVC implementing partners, 11 Wellness Centres and health facilities to create a platform for CFSWs to access a comprehensive pediatric health services package

Results: In fiscal year 2023, we reached out to 13,149 FSWs. 564 biological and non-biological hard-to-reach CFSWs were elicited and tested for HIV testing services, 3% (16/564) were identified HIV positive. We managed to link 100% (16/16) to optimal ART treatment and provided them with interventions tailored to their unique needs such

nutritional support and OVC services without social exclusion

Conclusion: Forecasting innovative ideas and strategies of reaching out to this “New” key population in HIV prevention using bi-directional linkage models is critical to ending HIV by 2030. Strengthening bi-directional linkage pathways to reach CFSW is an opportunity for the USAID CHEKUP II Activity to add value to community structures within the marginalized KPs in Zambia

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Integrating Health Services through a Peer Mentor Model: A Case Study in Lilongwe District, Malawi

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Background: In 2017, mothers2mothers Malawi transitioned from a PMTCT standalone program to offering integrated services aligned with the government's National Community Health Strategy and WHO/UNICEF Nurturing Care Framework. A 3-year project launched in 2018 in Lilongwe aimed to provide comprehensive PMTCT/RMNCH/ECD and Nutrition services, focusing on pregnant and breastfeeding women (PBFW) facing the dual challenges of HIV and motherhood, and their children. The project aimed to actively contribute to the goal of ending AIDS by creating demand, facilitating referrals for health promotion and education, accessing prevention, diagnosis, and treatment services. Furthermore, it offered comprehensive psychosocial support to ensure successful retention in care.

Material and Methods: PBFW and their children were enrolled using mothers2mothers digital health tools, through strategic placement of Peer Mentors in facilities and surrounding communities, to create demand and linkages to access comprehensive PMTCT/RMNCH/ECD, and nutrition services. In collaboration with government Community Workers, Nutrition Facilitators, and Peer Mentors conducted education sessions and Mid Upper Arm Circumference (MUAC)

assessments. They also facilitated evidenced-based Nurturing Care parenting information play (PIP) sessions, offering education on infant stimulation for both physical and cognitive development. Growth monitoring was seamlessly integrated into routine PMTCT visits at health facilities, with ongoing support provided during household visits. Data collected routinely for ongoing monitoring purposes was used in the context of a descriptive analysis.

Results: Over a 3-year implementation period, Peer Mentors reached 185,821 (PBFW) in households and health facilities, providing them with comprehensive PMTCT/RMNCH/ECD and nutrition services. Among these women, 47,718 (26%) were identified as HIV positive, and all of them (100%) were successfully initiated on treatment and remained in care. Notably, 45,449 (95%) adhered to ART according to m2m protocols, reducing the risk of virus transmission to their children and partners. Peer Mentors offered robust psychosocial and adherence support, reinforced by nutrition education and practical cooking demonstrations during PIP sessions conducted by Nutrition Facilitators.

Approximately 35,469 children under 3 years received Nurturing Care services. During growth monitoring and PIP sessions 14,283 (40%) underwent weight and MUAC assessments, with approximately 14,041 (98%) considered to have normal nutrition. Only 236 (1.65%) showed moderate acute malnutrition, and a mere 6 (0.04%) were malnourished, and successfully referred to the Nutrition Rehabilitation Clinic. Throughout the implementation period, 13,304 children exposed to HIV were tested at different intervals and only 90 (0.67%) tested positive, and all (100%) were promptly initiated on treatment.

Conclusion: Integrating health services enhances comprehensive, person-centered care, improving access and continuity of care for PBFW and their children throughout their healthcare journey. By addressing various health needs of PBFW and their children, they are more likely to adhere to treatment plans and engage in preventive activities, ultimately contributing to better overall health. The integration of nutrition education and MUAC assessments during routine PMTCT facility visits, and subsequent household visits by Peer Mentors, along with cooking demonstrations in Nurturing Care PIP sessions facilitated by Nutrition Facilitators, holds significant potential to strengthen early identification, facilitate linkages

to nutrition rehabilitation services, and enhance ART adherence support.

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Using the Community Awareness, Screening, Testing, Prevention and Treatment (CAST) Approach for Targeted Tuberculosis Case Finding Among Women in Central Uganda

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Background: Timely tuberculosis (TB) diagnosis in communities with a higher TB burden remains a challenge in Uganda. Major patient-level contributors to delayed diagnosis of TB include lack of awareness and sensitization about TB, spiritual beliefs, myths, lack of transport to health facilities and consideration of other differential diagnoses for TB such as pneumonia or Coronavirus disease (COVID-19) by clinicians. We conducted a “Creating Awareness, Screening, Testing, prevention, and Treatment (CAST)” approach in communities with higher TB burden as defined by a high TB incidence of 202/100,000, in eight districts in Central Uganda targeting women. We assessed the contribution of CAST approach by comparing TB cases identified before and after CAST implementation.

Methods: In the pre-CAST period (26th – 30th, September 2021), we conducted outreach in 60 TB high-burden communities (informed by the data in the unit TB registers) characterized by female crowding such as markets, gold mines, taxi parks, female prisons, bars, and homesteads. During the CAST intervention 27th – 31st, December 2021, we conducted TB community awareness using community radios, door-to-door sensitization by village health team members and distributed TB educational materials, did TB symptom-screening for all persons present, collected sputum samples, and did HIV testing for all presumptive TB patients.

We used two-sample t-tests to compare the mean difference in TB cases identified during the two periods. Significance was considered at $P < 0.05$.

Results: In the pre-CAST period, 8,288 women were screened for TB, 37% (3,093) were presumptive with a 10% (305) TB positivity yield of whom 9.8% (30) were co-infected with HIV. During the CAST period, 6,414 women were screened for TB, 38% (2,427) were presumptive with a 25% (610) TB positivity yield, of whom 21% (130) were co-infected with HIV. There was a significant mean difference of 38 TB patients, $P = 0.039$ between the two periods and 13 of the TB/HIV coinfecting cases identified, $p = 0.048$.

Conclusion: The CAST approach improved TB case identification among women in the targeted communities. This was achieved through support to communities to utilize resources to identify presumptive TB patients correctly. This approach will be beneficial for TB patient identification and prevention in communities.

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Multidimensional Approaches to HIV Prevention and Care for Sex Workers in Kenya: Addressing the Complexities of the Epidemic -ICRHK Stawisha Project

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Introduction: The HIV epidemic among sex workers in Kenya is a complex issue that requires a multidimensional approach that addresses the underlying social and economic determinants of the epidemic, while also providing targeted and tailored interventions to this highly vulnerable population. This abstract presents the results of ICRHK's Stawisha project, which used a combination of community-led psychosocial support groups, peer navigators, and clinician follow-up and reminder calls to improve HIV prevention and care among sex workers in Kilifi County, Kenya.

Methods: ICRHK conducted a retrospective facility-level data analysis of data for October 2021 to August 2022 to determine trends of HIV positive care and treatment among female sex workers. The approaches used included community-led psychosocial support groups, engaging sex workers as peer navigators, and clinician follow-up and reminder calls. During the psychosocial support groups, viral load sampling was done to HIV positive KPs that are eligible according to the national guidelines.

Results: ICRHK's approach resulted in a significant improvement in HIV prevention and care among sex workers. All HIV positive sex workers (100%, $n = 218/218$) were linked to HIV treatment, and out of the eligible FSWs for viral load testing, 57% of the KP were tested for viral load. The overall viral suppression for all eligible viral load samples taken was 98% ($n = 295/295$), which is above the UNAIDS target of 95%. These results indicate an improvement compared to the previous period where only single dimension of intervention was used.

Conclusion: The Stawisha project demonstrated that a multidimensional approach to HIV prevention and care is effective in addressing the complexities of the HIV epidemic among sex workers. Providing tailored interventions to address barriers and meet unique needs of sex workers is essential in reducing the HIV epidemic among marginalized groups. This approach can serve as a best practice model for other HIV programs that seek to improve HIV prevention and care among sex workers and other key populations.

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The Impact of Community Adolescents Treatment Supporters: A Promising Strategy towards Ending AIDS by 2030

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The global battle against AIDS has made substantial strides, but there remains an urgent requirement to devise innovative approaches in order to accomplish the ambitious objective of ending AIDS by 2030. This study aimed to examine the effects of employing Community Adolescents Treatment Supporters as a strategy to combat AIDS among adolescent girls and young women.

A mixed-methods approach was employed, utilizing quantitative data from structured surveys and qualitative data from focus group discussions. A diverse sample of 1,000 adolescent girls and young women, aged 15 to 24, living with HIV/AIDS was selected from various communities across 10 districts in Zimbabwe. Statistical analysis was conducted to ascertain the impact of Community Adolescents Treatment Supporters on key indicators, such as treatment adherence rates, viral suppression rates, and reduction in new HIV infections.

The findings revealed a significant positive impact of the Community Adolescents Treatment Supporters strategy on the targeted outcomes. Treatment adherence rates among the participants increased by 20% compared to a control group without Community Adolescents Treatment Supporters intervention ($p < 0.001$). Furthermore, there was a substantial improvement in viral suppression rates, with a 25% reduction in detectable viral loads among individuals supported by Community Adolescents Treatment Supporters ($p < 0.001$). The incidence of new HIV infections decreased by 30% in communities where Community Adolescents Treatment Supporters were actively involved in providing education, counseling, and promoting safe sexual practices ($p < 0.001$).

Additionally, the intervention group exhibited significant improvements in psychosocial well-being, with a 20% decrease in depressive symptoms ($p < 0.05$) and a 15% increase in self-esteem scores ($p < 0.05$). In conclusion, these findings underscored the crucial role of Community Adolescents Treatment Supporters in not only improving the health outcomes of individuals living with HIV/AIDS, but also in preventing new infections among vulnerable populations.

Key Words: Community Adolescents Treatment Supporters, HIV/AIDS.

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Uplifting and Empowering Women with HIV using Storytelling as a Strategy to End the HIV Epidemic

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Learning Objectives:

1. To identify a new way to engage women living with HIV to help achieve End the HIV Epidemic goals.
2. To describe the evidence-based practice of storytelling around struggle and resilience that results in patient engagement and building connections among women with HIV.
3. To report outcomes of the 2 storytelling approaches related to reducing in stress and anxiety, increasing emotional support, and gaining new perspectives on women living with HIV.

There are 263,900 women living with HIV in the US. In 2019, there were 6,999 new HIV infections in women. UCLA and Christie's Place are using Storytelling to reach, engage, and connect with women living with and affected by HIV to achieve End the Epidemic Goals.

Confessions: HIV+ Women is a bilingual docuseries podcast with English and Spanish episodes focusing on women with HIV developed by UCLA Los Angeles Family AIDS Network in collaboration with the LA Women HIV Task Force and Women Together. The podcast was released for National Latinx HIV/AIDS Awareness Day in 2023 as an engagement tool to share stories of Latina women to address shame, stigma, relationships, family dynamics, immigration, substance use as well as resilience. Confessions Podcast is in development for a 2nd Season focusing on Black women with HIV.

Christie's Place released a collection of women's stories in a book called "Healing Hope: A Woven Tapestry of Strength and Solace". Healing Hope is a project to encourage a cultural shift in harmful narratives that enable HIV-related stigma to persist. It is addressing the visibility of women living with HIV through storytelling. After the success of the first volume of Healing Hope,

Christie's Place is developing the second volume, which will feature stories of transgender Latinx women living with HIV in San Diego and in Tijuana, Mexico.

Support groups have been the traditional source for social and emotional support for women with HIV, however more than half of women with HIV will never access support groups due to unavailability of groups in their communities, transportation barriers, confidentiality and disclosure concerns, personal disinclination, stigma, shame, and internal fears. The podcast and the Healing Hope book aim to provide women with an alternative source of support that empowers them and creates connections with other women, so they don't feel alone. They are an education and engagement tool to link or re-engage women into medical care.

Storytelling provides a platform to uplift women with HIV and their stories of survival, healing, and resilience. UCLA and Christie's Place will present storytelling approaches, development process, and evaluation.

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Engaging Boys in DREAMS Programming for a Safer Tomorrow: A Model for Coaching Boys Into Men (CBIM) in Kapiri Mposhi District, Central Zambia

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Background: Historically, there has been a greater emphasis on programs tailored for adolescent girls and young women than on those for adolescent boys and young men. This trend has continued to pose a strain on gains in HIV prevention among adolescents. With epidemic control efforts increasingly shifting towards addressing structural barriers as a way to sustain current gains, there has been an increasing recognition of the importance of including boys and men in GBV and HIV programs. This is based on the understanding that there is an intersection between sexual gender-

based violence and HIV transmission; therefore, addressing gender inequality and stereotypes is essential to preventing GBV and reducing HIV transmission. The prevalence rate of GBV remains a significant national concern. According to the Zambia Police Victim Support Unit, the GBV cases in quarter four of 2022 stood at 10,241, signifying a 29% increase from 7,920 in the same quarter in 2021. We aimed to investigate the place of the Coaching Boys into Men (CBIM) initiative in addressing the root causes of gender-based violence and HIV in Zambia's Kapiri Mposhi District.

Methods: Between October 2023 and December 2023, the USAID Controlling HIV Epidemic for Key and Underserved Populations (CHEKUP II) implemented by JSH, Implemented the Coaching Boys Into Men (CBIM) unified approach in fighting gender-based violence and HIV in Kapiri Mposhi District. CBIM aims to prevent sexual and gender-based violence in schools and communities. Recognizing the unique role that boys and young men play in addressing GBV and HIV, the Activity identified male coaches with a good reputation in school and community to lead recruited boys aged 10-14 into a series of 15-minute-long 13-card series. These focus group discussions were incorporated into sports with conversations around healthy relationship skills, respect for women, equitable non-violent attitudes, good mental health practices, awareness, and response to GBV, and mental health service.

Results: 19 coaches with good standing in 10 schools and communities in the district were identified and trained to lead boys through a 13 series of CBIM cards. Out of an annual target of 1,127 and quarterly target of 282, 505 boys aged 10-14 were enrolled, received mentorship and graduated, representing 177% of the quarterly achievement. 101 boys received mental health services. Of the 101, 66 received Psychological First Aid, and 35 were enrolled in sessions. According to a post-session survey, these services enhanced the boys' coping mechanisms with them adopting equitable non-violence attitudes.

Conclusions: Boys and young men's engagement in the fight against gender-based violence and HIV is crucial for creating sustainable change in society. When boys and young men are 'caught young' with the knowledge of how to challenge harmful gender norms and promote healthy relationships, sustainable HIV and gender-based violence prevention outcomes are assured. The paper recommends the exploration of more all-

encompassing approaches to the HIV response and the fight against GBV.

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Kozo Peer-To-Peer Tailoring Mentorship: A DREAMS Initiative Intervention Curbing Transactional Sex Among AGYW in Kapiri Mposhi District, Central Zambia

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Background: When adolescent girls and young women (AGYW) depend on their sexual partners for economic support, that dependency perpetuates a cycle of poverty, trapping them in vulnerable situations, which may compel them to engage in transactional sexual relationships to meet their basic needs. This would make them vulnerable to HIV acquisition. Kapiri Mposhi, being a transit town, is infamous for rampant transactional sex due to widespread truck packs hosting countless international truck drivers, a situation that has the potential to heighten the HIV prevalence rate in the district and country at large. According to UNAIDS (2021), approximately 9.1% of AGYW aged 15-24 are living with HIV in Zambia. With Zambia's HIV prevalence rate among AGYW still a huge health issue, we aimed to assess the position of the Kozo peer-to-peer tailoring mentorship of the DREAMS Initiative in curbing transactional sex among AGYW in Kapiri Mposhi District, Central Zambia.

Methods: Between October 2023 to December 2023, the USAID Controlling HIV Epidemic for Key and Underserved Populations (CHEKUP II) Activity under JSH, implemented a peer-to-peer Kozo tailoring skills mentorship intervention among AGYW under the DREAMS (Determined, Resilient, Empowered, AIDS-free, Mentored and Safe) Initiative. Through the Kozo peer-to-peer tailoring model, AGYW who benefitted from the tailoring program were engaged as peer instructors to mentor their peers in tailoring skills. AGYW were met three times a week and received comprehensive theory and practical training in

tailoring. Through the Kozo mentorship program, AGYW mentored their peers, who later trained their peers in remote parts of the districts, leaving no one behind. Data was gotten through desk reviews and the DHIS2.

Results: A total number of 140 AGYW were trained in Kozo tailoring skills out of a yearly target of 102, representing an achievement of 137% towards the yearly target. The number of new AGYW being trained has increased from 5 in 2022 to 25 AGYW per month from October 2023. Retention has also increased. AGYW are now more confident to make a variety of items, with the production rate of items made per month increasing from 10 items in 2022 to 50 items in 2024. This approach has not only enhanced the economic strengthening component of the Activity, it has also improved service uptake. Out of 140 AGYW, 140 tested for HIV, 50 accessed PrEP, 2 tested positive and linked to care, 50 accessed condoms, 140 screened for mental health and 4 linked for post GBV care.

Conclusions: Through this intervention, much-needed social capital has been created among AGYW, in addition to enhancing their problem-solving abilities, which are critical in the AGYW's journey through adolescence. Overall, the Kozo peer-to-peer mentorship is benefitting AGYW in the community, enabling continued program acceptance, provision of emotional support, information and resources to navigate out of situations of economic dependency, personal economic empowerment, resilience and sustainability.

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PrEP Uptake in Cisgender Females at Risk for HIV in South Florida

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Background: Pre-exposure prophylaxis (PrEP) is a pharmacologic intervention that is highly effective in preventing HIV among cisgender females. However less than 7% of persons currently using PrEP identify as cisgender females in the United States. Additionally, non-Hispanic Black and

Hispanic cisgender females are more likely to acquire HIV therefore PrEP uptake in this population is imperative. Over the last several years, sexually transmitted infections (STI) have increased in incidence in South Florida, including among cisgender females, making PrEP education and PrEP uptake even more essential.

Methods: We conducted a retrospective chart review to describe PrEP uptake among cisgender females, presenting for STI testing, in a clinic in South Florida from January 2021 - December 2023. Cisgender females ages 18 years and older were included. Demographic data, incidence of syphilis, gonorrhea and chlamydia, provision of PrEP education, number of sexual partners in the last 12 months, PrEP use and PrEP discontinuation reason data points were extracted from the electronic health record. Cisgender females with missing data were excluded from analysis. A total of 110 cisgender females were included in the study. Mean age was 34.9 years, 59% identified their race as Black and 35% reported 2 or more sexual partners. 5.5% were diagnosed with chlamydia and 2.7% were diagnosed with gonorrhea over this time period. 46.3% were considered at risk for HIV as they reported multiple sexual partners, had a positive bacterial STI test and/or self-identified as at risk for acquiring HIV.

Results: 100% of cisgender females at risk for HIV received PrEP education while only 33% started PrEP. 64.7% of these cisgender females identified their race as Non-hispanic Black and 23.5% identified their ethnicity as Hispanic. All cisgender females who started PrEP chose to start Truvada. The mean time on PrEP was 5.6 months with a range of 1 to 24 months. Two cisgender females remained on PrEP for over 15 months. Of those cisgender females who started but stopped PrEP, 27% self reported they were no longer at risk for HIV, 6% reported they did not want to take a pill everyday but their work schedule would not accommodate an injection every 8 weeks for PrEP and 67% did not disclosure reasons for PrEP discontinuation.

Conclusion: PrEP uptake was successful as 1 out of every 3 cisgender females at risk for HIV started PrEP and a majority of these cisgender females identified as Black or Hispanic. Additional interventions are needed to enhance PrEP uptake in cisgender females at risk for acquiring HIV, who did not yet start PrEP, and also increase time on PrEP for those taking PrEP.

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Is This for Me? Understanding the Acceptability of Highly Effective HIV Prevention Methods Among Cisgender Women in Jacksonville, Florida, USA

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Background: In the United States (USA), racially minoritized cisgender women disproportionately acquire HIV, especially in the southern USA. Despite public health guidance to include highly effective HIV prevention methods in care delivery (e.g., post-exposure prophylaxis (PEP) and pre-exposure prophylaxis (PrEP)), women's utilization of these methods remains low. This study examined HIV prevention method acceptability among cisgender women receiving reproductive healthcare in Jacksonville, Florida, USA.

Methods: We recruited 198 patients from a reproductive health clinic between 2021-2022. As part of the broader study, participants were randomized to use an HIV prevention decision support tool (DST) versus standard care and completed surveys before and after visits. Participants responded to questions about sexual health behaviors and preferences in the post-visit survey, including "rate each [method] as an HIV prevention method for yourself (even if you've never used it)?" Response options ranged from 0-10, with "10" indicating greater acceptability. We used descriptive statistics for analysis.

Results: One hundred eighty-two participants completed post-visit surveys—92 participants used the DST, and 90 had a routine visit. The median age was 29 (18-45) years. Participants self-identified as female (99%), African American/Black (76%), and Hispanic/Latine (13%). Sexual behaviors in the last six months included vaginal (82%), condomless (68%), and anal (8%) sex. Additionally, 44% had ever received a chlamydia or gonorrhea diagnosis.

More than two-thirds of participants gave a “9+” rating for HIV (70%) and STI (71%) testing as acceptable HIV prevention methods; a quarter reported they were OK methods (3-8 rating), and approximately 5% said they were terrible methods for them (0-2 rating). Fifty-three percent of participants rated condoms “9+”, 40% OK, and 7% reported it a terrible method for them. Conversely, participants rated abstinence, PrEP, and PEP as the least acceptable, with 25-36% giving a “9+” rating, more than one-third rated them OK, and 26-41% rated them terrible methods.

Conclusions: Participants in Jacksonville, Florida, found highly effective HIV prevention methods, PEP and PrEP, less acceptable than HIV and STI testing and condoms. More research is needed to understand factors impacting cisgender women’s acceptability of highly effective HIV prevention methods to address inequities in HIV.

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State-Level Barriers and Facilitators for Implementing PrEP Services in Title X Family Planning Clinics

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Background: In the United States, over half of the 32,100 estimated new HIV infections in 2021 occurred in the South and a disproportionate number of those cases were among non-Hispanic Black women (28%). Transmission rates among Black women are fueled, in part, by the structural barriers preventing access to pre-exposure prophylaxis (PrEP). Patient-level barriers to PrEP uptake include cost, providers’ insufficient knowledge of PrEP, non-inclusive marketing, and social stigma. Although a significant number of Black women continue to be impacted by high rates of HIV transmission, Black women were not centered in PrEP effectiveness trials nor its marketing and therefore face a number of barriers to accessing the medication. In the South, Title X

family planning (FP) clinics offer an opportunity to increase Black women’s access to PrEP, particularly in states without Medicaid expansion. These clinics offer comprehensive sexual health services that are available on a sliding scale fee. However, only one-fifth of all the Title X clinics in the South provide PrEP. In this analysis, we describe state-level opportunities and challenges implementing PrEP services in Title X FP clinics in DHHS regions III, IV, and VI.

Methods: Eight Title X state-level grant holders from seven states participated in qualitative interviews conducted between March and July 2018. We assessed barriers and facilitators for integrating PrEP care in Title X clinics in their states using implementations-focused constructs from the Consolidated Framework for Implementation

Research: Results: In four of the seven states, PrEP services were available in Title X agencies, funded by Title X grants. Three other states offered PrEP services through the state-wide STD program or other HIV clinics, separate from the Title X program. The majority of state sites offered partial PrEP services. Few sites had full cascade of services available. State-level grant holders named the Title X sliding scale mechanism as a barrier to implementing PrEP services in FP clinics. In states with multiple agencies offering prevention services, patients were referred to the STD or HIV clinics instead of FP clinics to circumvent sliding scale fees. Several Title X grant holders expressed concern about PrEP implementation as yet another unfunded mandate.

They noted this could have two repercussions: adding to existing fiscal challenges and further straining relationships between leadership and the clinicians and providers who felt overworked. Title X grant holders felt that any implementation decisions needed to be co-defined with leadership executives, regional administration, and clinicians. A facilitator to implementation was offering on-site training series for clinicians and providers on PrEP. These trainings needed to minimize travel costs and interferences on staff time and be accompanied by personnel offering technical assistance.

Conclusion: Our analysis identified several obstacles to PrEP implementation, including limited staff capacity, strained relationships between leadership and the clinicians and providers, and structural barriers imposed by the Title X service model related to payment. Barriers at the structural and clinic level must be addressed

to implement PrEP services in safety-net FP clinics and pave the way for rolling out future HIV prevention services.

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Sweet Temptations: Exploring the Nexus Between Sugar Daddy Relationships and Rising HIV Prevalence Among Adolescent Girls and Young Women in Malawi

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Background: In Malawi, the intersection of sugar daddy relationships, commonly referred to as "Blessers," and rising HIV prevalence among Adolescent Girls and Young Women (AGYW) aged 15 to 24 is compounded by a significant barrier—negative attitudes and stigma surrounding the access to HIV prevention methods such as Pre-Exposure Prophylaxis (PrEP), Post-Exposure Prophylaxis (PEP) and Condoms. This abstract delves into the pervasive stigma associated with seeking information on PrEP, PEP and Condoms, hindering awareness and access among the vulnerable population.

Material and Methods: Utilizing a mixed-methods approach, this study combines qualitative interviews and surveys to elucidate the prevailing negative attitudes and stigma surrounding Condoms, PrEP and PEP among AGYW engaged in sugar daddy relationships. The research explores the socio-cultural factors contributing to this stigma and assesses its impact on the willingness of these individuals to seek information and access HIV prevention services. Ethical considerations were prioritized, and statistical analyses were employed to discern patterns in attitudes and behaviors related to Condoms, PrEP and PEP.

Results: Our findings reveal a profound stigma associated with inquiries about Condoms, PrEP and PEP among AGYW. Many adolescent girls and young women fear being labeled as sexually active or promiscuous if they express an interest in these preventive measures. This stigma creates a

deterrent effect, preventing individuals from seeking information or accessing the services, thereby exacerbating their vulnerability to HIV. The age disparity in Blesser relationships further impedes the dissemination of accurate information and inhibits the negotiation of safe sex practices. Moreover, the study identifies the role of cultural norms in perpetuating these negative attitudes, as discussions around HIV prevention are often shrouded in judgment and misconceptions. The impact of this stigma extends beyond individual behaviors, affecting the overall effectiveness of public health initiatives. Furthermore, cultural norms and societal expectations were identified as influential factors normalizing sugar daddy relationships.

Conclusions: Addressing the complex issue Blessers phenomenon and of the HIV prevention requires a multi-faceted approach that goes beyond information dissemination. Efforts must be directed towards challenging and changing societal attitudes and norms that contribute to the stigmatization of AGYW seeking Condoms, PrEP and PEP while normalizing Blesser relationships. Comprehensive educational campaigns, rooted in person-first language and destigmatization, are essential to shift perceptions and create an environment where individuals feel empowered to access and discuss these critical preventive measures without fear of judgment. Additionally the prevention services need to be readily accessible and tailored to the unique needs of AGYW.

In conclusion, our research emphasizes the urgent need for targeted interventions to destigmatize discussions around Condoms, PrEP and PEP among AGYW in Malawi. By dismantling the negative attitudes and misconceptions associated with these preventive methods, we can pave the way for increased awareness and access, ultimately reducing the vulnerability of adolescent girls and young women to HIV transmission within the context of sugar daddy relationships. This study advocates for a cultural shift that promotes open dialogue, understanding, and acceptance, fostering an environment where the health and well-being of individuals take precedence over societal judgments.

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Fostering Access to HIV Prevention Among Young Women in Rural Areas Aged 20- 24 Years Through 13-Week Sessions in Three DREAMS Centers in Zambia

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Background: In Zambia, young women (YW) in rural areas are less likely to access HIV prevention interventions than young women in urban areas. Results from the Zambia Population-Based HIV Impact Assessment (ZAMSTATS 2021) Survey inform existing programs and data-driven strategies on how to bridge health gaps and address unmet health needs among young women. To foster access to HIV prevention interventions among young women, the USAID Controlling HIV Epidemic for Key and Underserved Populations (CHEKUP II), implemented by John Snow Health, aimed at educating young women on HIV prevention using 13-week sessions, and evidence-based intervention.

Method: From April 2023 to June 2023, we trained 12 Connectors in HIV prevention using 13-week sessions in three DREAMS Centres. The Connectors further trained 60 Mentors and psychosocial counsellors, as facilitators in HIV prevention, using a 13-week session, evidence-based intervention. A snowball approach was implemented, where each of the 60 mentors and psychosocial counselors was assigned to reach 25 young women with the 13-week sessions on HIV prevention intervention. Through the 60 mentors and psychological counsellors, 1,500 young women were provided with 13-week sessions. A register was provided to record the attendance of the young women and a performance evaluation tool was also provided. Data analysis and management training were provided to the mentors who were facilitating the 13-week sessions.

Results: A total of 1,500 young women were enrolled and provided with 13-week sessions, from which 1,246 completed the sessions and accepted HIV counseling and testing. Of which 40 (2.6%)

tested positive for HIV and were linked to ART. Of the young women testing negative, 1,206 (were offered PrEP within the DREAMS centers, and 853 (71%) were eligible and initiated on PrEP.

The remaining 353 (29%) were not eligible for PrEP, however, were offered condoms and other HIV prevention measures. The post-survey conducted by the mentors and the psychosocial counselors, indicated how young women's HIV knowledge, confidence, communication skills, and interaction skills improved, which was an indication that increased knowledge and awareness could contribute to continued gains in HIV prevention especially in PrEP uptake, particularly with the roll-out of new modalities such as the injectable long-acting PrEP (CAB-LA), including the potential benefits of prioritizing CAB-LA to the young women in rural areas

Conclusion: The 13-week sessions were successful at reaching out to young women in rural areas who are at substantial risk of HIV, The deliberate action of targeting young women in the DREAMS centers in rural areas made us realize the pathway to foster access the young women to HIV prevention interventions and ultimately addressing the gaps and unmet needs among young women.

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Predicting Intention to Use Pre-exposure HIV Prophylaxis Among At-Risk Female University Students in Zambia

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Background: Adolescent girls and young women (AGYW) in Zambia experience disproportionately high HIV prevalence rates. Zambian female university students frequently have behaviors associated with HIV acquisition (transactional sex, etc). Yet, oral pre-exposure prophylaxis (PrEP) uptake in this population is low despite availability

through government programs. This study sought to establish predictors of intention to use PrEP among sexually active female university students in Zambia.

Methods: Female university students >18 years of age in Lusaka completed an online survey questionnaire covering intention to use PrEP (primary outcome); PrEP knowledge, perceptions, and use; HIV risk perception; sexual behaviors and epidemiological HIV risk; and demographics. Logistic regression was utilized to evaluate relationships between intention to use PrEP and relevant covariates.

Results: Of 454 participants who reported having sex, 118 (26%) indicated that they definitely/likely would use PrEP in the next year. Prior use of PrEP was rare (n=21, 5%). Barriers to PrEP intention included not having sex often (40%) or not having sex (24%), being afraid of side effects (23%) and not knowing where to access PrEP (20%). In multivariable logistic regression, odds of intention to use PrEP increased for those who believed they were high risk of HIV (OR=3.37, [1.91-5.92]) and for those who had ever taken PrEP (2.9 [0.99-8.46]). Odds of intention to use PrEP decreased for every additional point a student scored on the PrEP stigma or PrEP perceptions scales (0.91, [0.86-0.96]; 0.91, [0.85-0.97], respectively). Although not significant in the multivariable model, in simple models, odds of intention to use PrEP increased by 24% for each additional epidemiological risk factor a participant reported (1.24, [1.04-1.47]), and increased if a participant knew someone else taking PrEP (2.02, [1.26, 3.26]).

Conclusions: One in four sexually active female university students indicated strong intentions for PrEP use, which was correlated with perceived HIV risk and less PrEP stigma. However, current use was extremely low despite behaviors associated with HIV acquisition. Interventions that align HIV risk perception with epidemiological HIV risk, increase PrEP awareness and access, address side effects concerns, and reduce stigma are needed in this sub-population of AGYW.

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Ending the HIV Epidemic: HIV Self-Testing for Women and Their Male Partners in Obstetrics and Gynecology Clinics

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Background: In 2021, 82% of new HIV cases in women were due to sexual contact with male partners. Females report a preference and comfort with receiving HIV prevention services from their obstetrician-gynecologist (OB/GYN). Engaging the male partners of pregnant and non-pregnant women in HIV self-testing and HIV PrEP education in an OB/GYN care setting may be an essential strategy for HIV prevention interventions.

Methods: A prospective cohort study is occurring among cisgender women (pregnant and non-pregnant) and their male partners in OB/GYN clinics in Baltimore, Maryland, an EHE city. Eligibility for cisgender women attending an OB/GYN clinic visit includes age 15-65 years, using public insurance, and willing to complete an HIV self-test kit and distribute one per male partner. Pregnant patients are not required to complete an HIV self-test because serum HIV testing routinely occurs in pregnancy. All male partners of enrolled cisgender women are eligible for study participation. Participants complete an electronic survey assessing knowledge and attitudes toward HIV self-testing and prevention. Females are given HIV self-test kits to use individually or as a couple – at home or in the clinic with or without support from a certified HIV test counselor. Self-test kits included instructions, condoms, and HIV/STI prevention resources. Descriptive statistics were used to describe demographic and survey responses.

Results: We approached 54 women, 14 (26%) enrolled, and seven completed HIV self-testing with their male partner. Over half of the females (n=8) and males (n=5) identified as Black or African-American, with some college or advanced degree among females (n=7) and a high school

degree or equivalent (n=5) among males. Half of the females were in partnerships for less than three years, and half of the males (n=4) reported partnerships of one or more years. All participants thought it would be unlikely that they would acquire HIV infection. Most females (n=11) and males (n=6) did not have other sexual partners in the prior 60 days. Among females, 93% (n=13) had a prior HIV test, 42% (n=6) were from the prior six months, and four of these women were pregnant. Half of the females were aware of HIV self-tests, and four had previously completed one. Among males, 71% (n=5) had a previous HIV test, three from the prior 12 months, and none had used an HIV self-test. Knowledge of PrEP was 64% among females vs. 14% among males. One female and male noted PrEP was a good option but expressed reservations about consistent pill or injection use.

Conclusion: Our initial findings highlight OB/GYN clinics as promising locations for engaging both women and their male partners in HIV prevention efforts. The observed willingness of male partners to undertake HIV self-testing within the trusted context of OB/GYN care underscores a unique opportunity, particularly among pregnant persons. OB/GYN clinics may be crucial settings to help end the HIV epidemic in the United States. Moving forward, our project will concentrate on increasing recruitment and deepening our understanding of HIV preventive measures within this demographic.

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SNPs In ABC Drug Transporters Alter Gene Expression & Circulating Tenofovir in Healthy South African Women Exposed to PrEP

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Truvada® (a combination of tenofovir and emtricitabine) is a standard of care for HIV prevention in South Africa. Since single nucleotide polymorphisms (SNPs) in ABC drug transporters alter their mRNA gene expression levels and tenofovir-disposition; we determined the association between SNPs in drug transporter genes, mRNA expression and circulating tenofovir in 393 black South African women offered Truvada® for HIV prevention over-time. Six SNPs: ABCB1(3435A/G), ABCC1(198217C/T), ABCC2(1249A/G), ABCC4(3463C/T), ABCC4(4131A/C), ABCC4(4976A/G) previously associated with tenofovir-pharmacokinetics and HIV were TaqMan®-genotyped, and mRNA expression determined in three genes P-gp, MRP-2 and MRP-4 using quantitative RT-PCR.

Both univariable and multivariable analyses for individuals with the CT and TT genotypes for the ABCC4(3463C/T) SNP showed significantly higher plasma tenofovir relative to individuals with the CC genotype (p<0.05). In contrast, for the ABCC4(4976A/G) SNP individuals with the AA genotype showed significantly less plasma tenofovir (p=0.018) compared to individuals with the AG genotype. The ABCC4(4976A/G) SNP in the blood also showed significantly increased mRNA expression for individuals with the AA genotype compared to those with the AG genotype (p=0.0132).

Our results showed that SNPs in the ABCC4 gene may differentially affect circulating tenofovir levels and mRNA expression levels. Their combined impact may inform on low PrEP efficacy observed in clinical trials with African women and which drug combination or PrEP dosage would be most effective in individuals presenting with certain genotypes with this gene.

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Risk Perception and Usage of Non-occupational Post-exposure Prophylaxis (nPEP) among Fishing Folk in Ggulwe Parish on the Shores of Lake Victoria in Central Uganda

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Background: The use of non-occupational post exposure prophylaxis (nPEP) to prevent HIV acquisition among those exposed as an approach to HIV prevention has expanded in Uganda. Although there are increased efforts to avail nPEP services among at most risk populations, usage of nPEP medicines remains low. Therefore, this study examined the risk perception and usage of non-occupational post exposure prophylaxis (nPEP) among fishing folk of Ggulwe fishing parish, Bussi Sub County, Wakiso district.

Methods: A cross sectional study among adults was carried out from October 2020 to January 2021 in Ggulwe Parish, Bussi sub county, Wakiso district to examine the usage of nPEP and factors influencing the usage. Data were collected using semi-structured questionnaires, and key informants' interviews conducted on health care providers and the local leadership. The quantitative data were summarized at bivariate and multivariate using logistic regression, and qualitative data were analyzed thematically to enrich the quantitative results.

Results: Overall, 248 fishing folk encountered an event that required the use of nPEP and of these 55/248 (22.2%) of all were able to use nPEP to prevent them from acquiring HIV. Usage of nPEP among adults in Bussi Sub-county Wakiso district was associated with; not knowing that HIV can be prevented using nPEP medicines (aPR 5.88, 95%CI: 1.269227.2761, p=0.0235), knowledge of the existence of nPEP (PR 0.3086; 95%CI:0.1098-

0.8671, p=0.0257), the perception that nPEP can effectively prevent HIV infection after exposure (PR 0.0586, 95% CI: 0.0177-0.1944, p<0.001), and the community's opinion affecting the willingness to take nPEP (PR 0.1924, 95%CI: 0.0380-0.9727, p=0.0462).

Conclusion: Usage of nPEP among fishing-folk was low (22.2%). Most of the adults did not know of the existence of the nPEP HIV prevention strategy but were willing to take nPEP.

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Impact of Program Interventions on PrEP Uptake and New HIV Infections among Key Populations in Mubende Region, Uganda.

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Background: In July 2017, Uganda adopted oral Pre-exposure prophylaxis (PrEP) as a biomedical prevention intervention to reduce new HIV infections for Key Populations (KP's) at substantial risk of HIV infection. Challenges to oral PrEP uptake were pill burden, lack of transport to clinics, stigma due to drug packaging similarities to HIV drugs and high mobility of PrEP users. In the PEPFAR supported Mubende region, from January 2020, the HIV program implemented interventions to address these challenges including PrEP counselling, adherence support, differentiated PrEP service delivery through facility integrated service, community peer-led hotspots and drop-in centres. We examined the impact of program interventions on oral PrEP uptake and new HIV infections among key populations in Mubende region, Uganda.

Methods: We retrospectively analyzed data from PrEP registers at 104 public clinics in eight districts of Mubende region, Uganda. Quarterly data were collected across periods; before PrEP interventions

(April 2018 – December 2019) and during PrEP interventions (January 2020 - December 22). We measured quarterly KP enrolments on PrEP and new HIV positives while on PrEP. We conducted segmented ordinary least squares regression of interrupted time series and observed for level and slope changes to assess the impact of PrEP interventions on uptake and new HIV infections among KP's.

Results: In the pre-PrEP interventions period, 252 KP's were enrolled on PrEP with an HIV positivity rate of 1.2% (3), all being discordant persons. During the interventions, 27,553 KP's were enrolled on PrEP and the HIV positivity rate declined to 0.01% (4), all being sex workers. At the start of pre-intervention period (Apr-Jun 2018), 27 KP's were enrolled on PrEP. During this period, the trend was constant. At the start of the PrEP interventions (Jan-Mar 2020), there was a non-significant increase in number of KP's enrolled on PrEP. During this period, the quarterly trend increased with 352 more KP's enrolled (95% Confidence interval [CI]: 241, 463). Significantly, 210 more sex workers enrolled per quarter (95% CI:125, 295) and 34 more discordant persons (95% CI: 20, 48). MSM averages were not different across quarters.

Conclusion: The HIV program interventions had a positive impact on PrEP uptake and HIV positivity among Key populations, significantly for sex workers and discordant persons. Maintaining these interventions will help sustain the positive trend in PrEP enrolment for KP's.

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Understanding Intention to Use Pre-exposure HIV Prophylaxis Among Female University Students in Zambia: A Qualitative Assessment

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Background: Adolescent girls and young women (AGYW) in Zambia are one of the most at-risk populations for HIV acquisition. Oral pre-exposure prophylaxis (PrEP) is available through government programs in Zambia; however, uptake among AGYW is low, including among university students who frequently have behaviors associated with HIV, such as such as age-disparate and transactional sex. Few observational PrEP-focused studies have been conducted in Zambia and very little is known about intention to use PrEP among female university students anywhere in sub-Saharan Africa. This study sought to qualitatively understand PrEP use decision-making among female university students in Lusaka, Zambia.

Methods: Female university students at least 18 years of age were recruited to complete an online survey during February-April 2022. The questionnaire included closed and open-ended (free text) questions related to PrEP knowledge, attitudes, and behaviors, including their intention to use PrEP in the next year and an explanation for their decision. The free text explanations were analyzed through a qualitative constant comparison approach within and across each response category.

Results: Of the 326 survey participants who provided a free text response to explain their intention to use PrEP in the next year, 166 (51%) indicated they would not use PrEP; 57 (17%) reported they definitely or likely would use PrEP; and 103 (32%) reported they were unsure or preferred not to answer. Themes among participants who reported unlikely PrEP use in the next year included having a low HIV risk perception due to either abstaining from sex or feeling confident they knew their sexual partners' HIV status. Conversely, those who reported likely PrEP use in the next year explained that PrEP is a tool to empower women's futures by protecting themselves against HIV. Those who intended to use PrEP also described uncertainty about their sexual partner's behavior, such as having other outside sexual relationships, and acknowledging that women are not always able to control sexual encounters (when sex happens and if a condom is used) and PrEP will "at least help prevent HIV" in such circumstances.

Conclusions: In this sub-population of female Zambian students, HIV risk perceptions, including sexual partners' behavior, and personal autonomy over sexual health affected intention to use PrEP, similar to studies in other settings with AGYW. Interventions targeting PrEP uptake in such

populations should consider addressing HIV risk perception and the importance of using PrEP because you do not know what your sexual partner may be doing. Emphasizing the empowering effect PrEP use can have in female students' lives – which are often highly uncertain – may also resonate well with this sub-group of AGYW and improve subsequent PrEP uptake.

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Learning from Success: Lighthouse Tisungane clinic's PrEP Escort Model and its Impact on Zomba's HIV Prevention Efforts.

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Background: 69% of HIV-positive people in sub-Saharan Africa are women and girls. While Malawi has seen a decline in new HIV infections, women remain at higher risk. PrEP, a WHO-recommended HIV prevention medication, has been available in Malawi since 2018 and at Lighthouse Tisungane clinic since 2021. However, PrEP uptake among women has been low. In 2021, only 46% of the 314 women referred for PrEP services due to ongoing risk actually reached the clinic for assessment. These women were referred and escorted to the PrEP clinic from different healthcare points like HIV testing rooms, prenatal, sexually transmitted infection clinics and family planning. To address this issue, Lighthouse Tisungane implemented an "expert client" escort model, where trained expert clients (who are linking new HIV positive into care) guide those at risk to the PrEP clinic. This study aims at determining whether this model improved PrEP adoption among women.

Methodology: Retrospectively, we reviewed medical records of women at ongoing HIV risk from January 2022 to December 2022. We gathered data from registers and electronic medical records. We analyzed their data using descriptive statistics

and percentages focusing on entry point, age, sex, and HIV risk category.

Results: By December 2022, 238 women (age range 15-58, mean 37) were identified having ongoing risk to HIV and physically escorted to PrEP clinic. 96% (n=228) women successfully reached and assessed at PrEP clinic and 90% (n=214) started PrEP on the same day. 25% (n=54) were adolescent girls and young women, 29% (n=62) were from discordant couples, 8% (n=17) sex workers and the remaining 38% (n=82) were women of other categories. STI department dominated referrals with 48% (n=210), seconded by HTS 22% (n=96) then followed ART and referrals from other facilities with 10% (n=44) and 8% (n=35) respectively.

Conclusion: The study has established that the PrEP escort model intervention successfully improved PrEP uptake among women.

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Optimizing Choice in HIV Prevention for Adolescent Girls and Young Women in Zambia. A Qualitative Finding from Interviews and Focused Group Discussions among Potential PrEP Users

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Background: Zambia has a generalized HIV epidemic, with a prevalence of 12.0% among adults aged 15-59 years and an annual incidence of 0.61%. HIV incidence among adult women is more than three-fold that of their male counterparts (0.93% vs. 0.29%), and even higher among younger women 18-25 years old. High HIV incidence in Zambia is attributed to several factors, including multiple and concurrent sexual partnerships, inconsistent use and non-use of condoms and high prevalence of other sexually transmitted infections (STI), such as syphilis (MOH 2017). To achieve the UNAIDS goal of achieving 95-95-95 by 2030, addressing the HIV prevention, care, and

treatment needs of key populations (KP), including people who inject drugs (PWID), Transgender individuals, and female sex workers (FSW), will be essential. Zambia has a number of HIV prevention strategies, such as delayed sexual debut, internal and external condoms, oral PrEP, PEP, and abstinence, yet the risk of infection among girls and young women is still higher. A major factor contributing to this increased risk is the lack of more widespread and effective HIV prevention strategies and lack of choice for methods.

TALC, with support from the Coalition to Accelerate & Support Prevention Research (CASPR), has been implementing a project aimed at accelerating proven prevention methods through advocacy for Choice in HIV prevention for adolescent girls and young women (AGYW). AGYW form a diverse group encountering unique challenges in accessing information and services and adhering to existing HIV prevention methods.

Materials and Methods: Focus group discussions and interviews were conducted with 100 potential HIV PrEP users, specifically adolescent girls and young women across four provinces in Zambia. The aim was to gain insights into their comprehensive HIV knowledge, access, and utilization of prevention methods, and understand their perception of HIV risk.

Results: Access to and utilization of HIV prevention methods vary among women and girls due to several factors, the quality of counselling, insufficient knowledge on prevention methods, inappropriate messaging on PrEP and PEP, marital status, current sexual partner, pill burden, and other considerations such as the efficacy of the product, internal or external stigma, discrimination, changes in circumstances, lifestyle, and provider bias towards certain methods. There is low risk perception among AGYWs.

Conclusion: The findings suggest that adolescent girls and young women are unique in their preferences, and individual choices may vary over time. This underscores the importance of offering a range of methods that can meet their needs in different circumstances and phases of their lives. There is a need to design prevention programs centred on choice, providing a range of options, including long- and short-acting methods, such as condoms, oral PrEP, PEP, PrEP Ring, and injectable PrEP. Programs should use straightforward language to convey the risks and benefits, coupled with choice-based counselling to meet the individual needs of AGYWs. HIV prevention

programs should prioritize choice instead of focusing solely on efficacy to disadvantage certain prevention products. Furthermore, it is imperative to explore innovative delivery systems for HIV prevention methods and information tailored to AGYW.

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The Effectiveness of Pre-Exposure Prophylaxis (PrEP) Strategies in HIV Prevention among Women in Africa: A Systematic Review and Meta-analysis

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Background: Despite the considerable success of global initiatives, such as the widespread adoption of condoms, in significantly reducing the burden of HIV, a substantial number of women in Sub-Saharan Africa (SSA) still live and contract the virus. The prevalence of infectibility and transmission remains high in SSA, primarily due to lower usage of preventive measures. Addressing the desire for condomless sex in discordant relationships and the aspiration to conceive without the fear of contracting HIV is necessitated.

Methods: The search was executed on Pubmed, Web of Science, Africa Journal Online (AJOL), and Cochrane Libraries. A manual examination of reference lists from eligible articles was also conducted to ensure the inclusion of all relevant studies. The search was conducted in November 2023 and was limited to studies published in English between 2010 and 2023 among women 18 years old and above in Africa. Studies considered were Randomized Controlled trials. A meta-analysis package –metafor in Rstudio- pooled the risk ratios across studies. Since actual study variance was anticipated, we used the random effect inverse of variance model for effect size estimation. However, a restricted maximum-

likelihood estimator (REML) was used to quantify population-level/true variance, whereas Eger's regression test was used to measure the presence of publication bias. Due to the number of studies, no sub-group analysis was conducted.

Results: Out of 7500 initial studies extracted, 5 studies met inclusion criteria. There were 7371 observations and 369 cases of HIV. One study was conducted at the Sub-Sahara African level, two from Eastern Africa and one from Southern Africa. There were no studies from West and Central Africa. The mean adherence was 91.55% (min-max: 80-97%) whereas severe adverse events ranged from <1% to >7.4% among the exposed group. We found that compared to the control/placebo group, those who were exposed to the PrEP regimen had a reduced HIV risk by 48.59% (RR=0.5141, 95% CI: 0.3679-0.7185; p<0.001), suggesting nearly 50% effectiveness of PrEP initiatives. However, there was a moderate level of heterogeneity in effectiveness across studies (I² = 57.7%, 95% CI: 0-84%; p = 0.0505; tau = 0.2905).

Conclusion: The synthesis indicates that, on a general scale in Sub-Saharan Africa, the effectiveness of PrEP initiatives is estimated to fall within the range of approximately 28% to 63%. This suggests a moderate level of effectiveness but with notable variability. Although there is a lack of sufficient studies to investigate the reasons behind this variability thoroughly, it is suspected that differences in the ability to follow prescribed protocols may be a contributing factor.

Keywords: HIV/AIDS; PrEP; pro-exposure prophylaxis; Africa; women

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Effects of Cultural Factors on HIV Vulnerability and Transmission in Gambella, Ethiopia

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Introduction: Worldwide, an estimated 36.9 million people were living with HIV/AIDS by the

end of 2017. Gambella region has the second highest HIV/AIDS prevalence in Ethiopia next to the capital Addis Ababa. This study was conducted to identify the cultural factors related to HIV vulnerability among youths and women in the region.

Methodology: The study has employed a cross-sectional study design. It also used a mixed approach in which quantitative and qualitative methods were used. A cluster sampling design was used as the populations in the region were located sparsely and about 295 respondents were interviewed using the standard questionnaire. For the qualitative research, key informant interviews/KIIs were used and ten selected individuals were interviewed from each woreda.

Result: The mean age of the sexual initiation was 16.7 years with a standard deviation of ±4. Eighty-four percent of the study participants had at least 2 sexual partners in the past 12 months. Males were 2.3 times more likely to have multiple sexual partners AOR 2.34 (95% CI, 1.21, and 4.54) than females. Having unprotected sex with regular customers with CSW was common. Generally, inconsistent usage of a condom, the poor prevalence of male circumcision, transactional sex, and, excessive drug usage was attributed as a factor for HIV vulnerability.

In addition, the existence of gender imbalance in decision-making has affected women to rely on their male partners to decide on sexual matters such as condom usage and sexual fidelity matters.

Regarding the qualitative report, it was reported that wife inheritance, sex accommodation, polygamy, poor rate of male circumcision, blaming others for irresponsible sexual behavior, perception of disclosure, commercial sex work, and, excessive substance use stated as a factor for youth's vulnerability for HIV in the region.

Some Recommendations:

☑ Tailored and community-led interventions that promote behavioral change communication (IEC/BCC) will be more effective.

☑ Health campaigns needed to address traditional practices such as wife inheritance and, sex accommodation should be addressed.

☑ Women empowerment should be encouraged and contextualized with the cultural context in the region.

☑ Harmful Traditional Practices/HTP that exposes women to HIV vulnerability should be halted using the legal and policy framework which involves

women, youth and, the local traditional and religious leaders.

Policy makers, INGOs, local government, and other stakeholders should work together to reduce youth's and women's vulnerability to HIV in the region by giving due attention to cultural contributing factors and practices.

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Overview of Viral Load Testing Coverage among Adolescents and Young People Living with HIV in Cameroon

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Context: Viral load testing is vital for monitoring the efficacy of ARV treatment in children, adolescents and young people. It allows early detection of treatment failure. According to the national guidelines for the prevention and management of HIV/AIDS in Cameroon, it should be prescribed once a year for children, adolescents and young people. It helps to prevent frequent ARV resistance, indicates the effectiveness of ARV treatment and enables healthcare professionals to make important clinical decisions regarding HIV management. The objective was to assess the coverage of viral load testing among adolescents and young people living with HIV in Cameroon through Youth Community-Led Monitoring (Youth-CLM) conducted by the Cameroon Network of Positive Adolescents and Young People (RéCAJ+).

Materials and methods: As part of the Youth-CLM programme, viral load testing among adolescents and young people living with HIV (YPHA) was monitored from December 2022 to September 2023 in 47 health facilities (FOSA) in the country's 10 regions. It is being carried out through the collection of data in the health facilities by trained young people living with HIV from their peers aged between 10 and 24, using questionnaires. The data collected is then entered using the Kobo collect application and analysed using Excel and Tableau 2019 software. Before implementing the activity, access authorisations to the health facilities were

obtained from the Ministry of Public Health and the health units. In addition, the data collected as part of the Youth-CLM are presented to health facility managers beforehand.

Results: During the data collection period, 1208 young people living with HIV responded to the questionnaires. 14.6% (176) of the beneficiaries questioned had not had a viral load test carried out in the last 12 months and 20.3% (203) of those who had had a test had not actually received their results. It took a long time for 18.8% (120) and a very long time for 20.9% (134) of young people living with HIV to receive their results. The ideal turnaround time for results reported by beneficiaries is 2 weeks to one month.

Conclusion: There is a problem with the coverage of viral load tests, as 14.6% of the young people living with HIV surveyed had not undergone this test in the last 12 months. What's more, the results must be made available to beneficiaries systematically and within a short timeframe for optimal follow-up.

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Prevention of Mother-To-Child Transmission of HIV (PMTCT) Services and the 95-95-95 Targets in The Gambia, January –December 2022

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Introduction: The Gambia faces a significant public health challenge with rising HIV infection rates. The study aims to assess if the country has met all 95 PMTCT service targets by December 2022.

Methods: A cross-sectional study was conducted at PMTCT sites. We reviewed data of women who came for antenatal care and received HIV services from January to December 2022. Data was collected from hospital records and DHIS 2, including demographics, HIV testing methods, HIV status, care linkage, treatment, and death.

Results: Of the 78,258 pregnant women tested for HIV in 2022, 579 (0.7%) were found positive, 506 (87%) were enrolled for treatment, 22 (16.4%) had their viral load suppressed, while fatality was 0.5%. Out of the total enrolled for treatment, 134 (134/506 = 26.4%) (20.4%) had their viral load tested and of these, 22 (16.4%) had their viral load suppressed.

Rural HIV positives (69.7%) enrolling more than urban positives (61.6%) with [PR: 0.9 (95% CI 0.8304-0.93880)] respectively. Urban facilities (53%) have more viral load testing than rural facilities (47%) with [PR: 0.4 (95% CI 0.2636-0.5994)], and also attending urban PMTCT services is 1.8 as likely to have your viral load suppressed as compared to those attending rural PMTCT services

Conclusion: The Gambia has not met the second and third 95 UNAIDS targets by 2022, despite a low incident rate and viral load testing rate. The National AID Secretariat should enhance viral load testing and conduct further studies on factors contributing to low suppression.

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Factors Associated with Lack of Access to Viral Load Measurement in HIV-Positive Pregnant and Lactating Women on Arv in Democratic Republic of Congo

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Introduction: Viral load is an irreplaceable indicator of ART efficacy. An unsuppressed viral load is not only a failure of treatment for the mother but also a factor facilitating HIV transmission to the child. Access to this viral load in the PMTCT program remains a major challenge,

especially in low-income countries. This study aims to determine the factors associated with non-measurement of viral load in HIV+ pregnant and lactating women on ARVs.

Methodology: The study was conducted in four provinces of the DRC: Haut Katanga, Kinshasa, Kongo Central, and Maniema. A mixed-methods approach was used.

The quantitative part was an unmatched case-control study. Cases were HIV+ pregnant and lactating women on ARV for at least six months who had never performed viral load during their last pregnancy. Controls were HIV+ pregnant and lactating women on ARV for at least six months who had already performed viral load at least once during their last pregnancy. Logistic regression was used to identify factors associated with non-measurement of viral load in HIV+ pregnant and lactating women on ARVs.

The qualitative part involved semi-structured interviews with HIV+ pregnant and breastfeeding women on ARVs, healthcare providers, and technical and financial stockholders. Quantitative and qualitative data are summarized respectively by the mean and interquartile space as well as by frequency tables. Pearson's Chi-square and Student's t tests were used for comparison of proportions and means, binary logistic regression to identify variables independently associated with no access to viral load. The threshold of statistical significance was set to 0.05.

Results: Factors associated with non-measurement of viral load were lack of knowledge of where to measure VIRAL LOAD (AOR = 8.9; 95%CI: 3.3-24), lack of knowledge of the benefits of viral load (AOR = 2.9; 95%CI: 1.1-8.4), self-stigmatizing attitudes (AOR= 4.7; 95%CI: 1.8-12.1) and non-membership of the Self-Support Group (AOR = 4.1; 95%CI: 1.8-9.4). In the qualitative section, the main barriers mentioned were unavailability of cartridges, geographical inaccessibility, lack of spousal support, and lack of information on the importance and timing of viral load testing.

Conclusion: This study found that the factors associated with non-measurement of viral load are modifiable and are more related to the supply of service than to demand. It is therefore important that interventions be implemented to improve patient-provider communication, combat self-stigmatization, strengthen self support groups activities, and improve viral load laboratory

coverage, among other things, by capitalizing on Point of Care.

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Assessing PMTCT Service Uptake and Anti-retroviral Treatment Coverage Among Female Sex Workers: A Situation Analysis From the Nigeria Integrated Biomedical and Behavioral Surveillance Survey

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Introduction: Prevention of Mother to Child transmission remained the most single source of mode of transmission of HIV in Nigeria. This study investigates the utilization of Prevention of Mother-to-Child Transmission (PMTCT) services and Antiretroviral (ARV) coverage among female sex workers (FSW), focusing on their experiences with Antenatal Care (ANC) attendance. The objective is to provide a comprehensive understanding of the reproductive health dynamics within this vulnerable population.

Method: A cross-sectional study was conducted using multistage sampling method to select a diverse sample of female sex workers. In the first stage, 12 states were selected across the six geopolitical zones in Nigeria while in the second stage, 93 hot spots were selected using a sampling frame technique. A total of 4190 participants were interviewed using structured questionnaires to collect data on ANC attendance, HIV status awareness, and engagement with PMTCT services. STATA statistical software version 15 was utilized to descriptively analyze the proportions of FSWs who have attended ANC, received HIV testing, ARV coverage, and demographic characteristics.

Results: Majority (73%) of female sex workers (FSWs) reported having given birth, with 82% of this group attending ANC during their last

pregnancy. Of those attending ANC, 80% underwent HIV testing, while 22% were involved in sex work during their last pregnancy. Concerning PMTCT services, only 15% of FSWs were aware of their HIV sero-status during their last pregnancy. Among those aware of their status, 49% were already on ARVs, and 41% initiated ARV treatment before giving birth. Overall awareness of HIV status during pregnancy was low, with ARV coverage falling below 50%.

The demographic insight revealed that the mean age of debut in sex work at 22 years while one-third of FSWs initiated sex work before reaching the age of 19 years and 37% of FSWs have worked in the industry for five years or more, while only 6% had less than one year of experience. The primary reasons cited for entering sex work included financial gain (82.71%), unemployment (8.17%), divorce/separation (2.33%), marital frustration (2.28%), widowhood (1.39%), and pleasure (1.69%).

Conclusion: The findings underscore the need for targeted interventions to improve ANC attendance and promote awareness of HIV sero-status among FSWs during pregnancy. Additionally, efforts should be directed towards enhancing ARV coverage to mitigate the risk of mother-to-child transmission of HIV. Future efforts should focus on addressing the identified challenges to ensure comprehensive and effective healthcare delivery for female sex workers.

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Benefit of a Person-Centered Comprehensive Model of Care for Women Living with HIV in an Integrated Health Care Setting in Cape Town, South Africa

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Introduction: Research shows that women living with HIV (WLWHIV) experience more adversities and health related challenges than women who are

HIV negative. This underscores the need for a targeted, adaptable model of care that is gender specific and accounts for the heightened vulnerabilities of WLWHIV. This should be incorporated into a holistic and culturally sensitive framework to address their clinical needs and psychosocial determinants.

At Eerste River Hospital (ERH), a district level hospital in Cape Town; South Africa, a model was developed that identifies and addresses the perceived needs of all women living with HIV regardless of staging. The model incorporates person-centered care, integration of services, and appropriate and timely referral to allied health care providers as well as early enrollment into ART clubs, a differentiated model of care where medication is pre-packaged and collected. In this model, Kheth'Impilo (KI) assists with home-based care. KI is a registered Non-profit organization supporting the community through comprehensive package of related services. Integration of HIV and other relevant health services aimed at women allows the increase in uptake of health services and retention in care.

The objective of this study is to look at the outcomes for female patients living with HIV receiving care through the implementation of this approach of person-centeredness, integration of care, referral and ART clubs.

Method: A cross sectional, quantitative descriptive method was used looking at patient level data and ART club registers from January 2023 – December 2023. Our data analysis focused on female clients on treatment, adherence and viral load suppression. This allowed us to highlight the outcomes of this model.

Results and Discussion: Person-centered care, in the definition given by WCDOH&W, includes the needs of each patient, information that they understand, empowerment and holistic management. An aspect of this person centered or gender-specific model is the example of partnering with pharmacy to streamline medication distribution of mothers living with HIV. Mothers conveniently have their medication issued alongside that of their child without a folder, and the family is booked for the same follow up appointment.

Bemelmans et al showed how community supported clubs benefited this model. In ERH, these clubs are currently facilitated by lay counsellors that belong to NPOs, while being

managed by the Clinical Nurse Practitioners. These clubs have proven to be very successful as the mean adherence rate is 95%, in-line with research that shows 97% retention in care after 40 months of being in a club, with Viral Load Suppression averaging 93%.

Conclusion: When a person-centered approach is built on trust, there is increased compliance, improved quality of care and, ultimately, better health outcomes. The evidence and benefit of the model can be seen in the success of the clubs, retention in care, compliance and viral load suppression rates, supporting the statement that this model is beneficial to WLWHIV.

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Knowledge, Practice and Barriers to Cervical Cancer Screening Among Hiv-Positive Women in Moshi Municipality, Kilimanjaro- Tanzania

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Background: Cervical cancer is the fourth most common cancer globally among women in incidence and mortality and one of the most common cancers affecting women in Tanzania. 8% of HIV-Positive women are disproportionately at a higher risk of developing the disease. The aim of this study was to assess the knowledge, practices and barriers to cervical cancer screening among HIV- Positive women in Moshi Municipality, Kilimanjaro in northern Tanzania

Methods: A cross-sectional study was conducted in the Kilimanjaro region among 215 HIV-Positive women attending care and treatment centers (CTC) at Mawenzi regional hospital and KCMC hospital between 8 July and 21 July 2021. A questionnaire was used for data collection using face-to-face interviews. The study population were HIV Positive women aged 18 to 49. Data were analyzed using SPSS version 20.0. Frequencies and percentages summarized categorical variables and

numerical variables summarized using median and interquartile range (IQR).

Results: 64.1 % of the participants had a good level of knowledge on cervical cancer risk factors. 52.2% women had poor knowledge on the signs and symptoms of the cervical cancer, 69.3% had good level of knowledge on cervical cancer preventive methods. Over half, 64% of HIV-Positive women in this study had ever screened for cervical cancer. And among these 29.9% had their cervical cancer screening in the past 12 months. HIV status, advice from health care providers and screening campaigns were the reasons for undergoing cervical cancer screening. 85.0% received information on cervical cancer from health professionals and 47.7% from media and 20.1% of them from family/relatives. Among the barriers to cervical cancer screening, afraid for the bad results was 71.5%, afraid for the test procedure was 59.8%, lack of disease symptoms was 46.7%, no reason for the test was 24.3%, never heard screening was 22% and not prescribed by the doctor was 20.1% of which commonly mentioned by the participants.

Conclusions: HIV-positive women demonstrate moderate screening rates, influenced by healthcare advice and campaigns. Health professionals are the primary source of information. Barriers to screening of cervical cancer suggesting a need for focused education and addressing psychological concerns to improve screening rates

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Evaluating the Impact of Sisterhood for Health Equity (She)-a Bundled Intervention - Aimed At Improving the Health Outcomes of Black Women With HIV

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Background: The National HIV/AIDS Strategy (2022-2025) has identified Black women as a priority population. Despite progress, Black women continues to be disproportionately affected by HIV with their rate of infection being 11 times those of White women and 4 times that of Latinx women. Black women are further facing challenges to engaging and staying adherent to HIV care and treatments due to competing priorities such as caretaking of other family members, mental and/or physical health, homelessness, poverty, and job insecurity. The challenges are further compounded by the impact of racism.

Material and Methods: As such, the Ambulatory Health Services of the Philadelphia Department of Public Health joined the 2020-2023 Black Women First Initiative as a funded site to enroll women to Sisterhood for Health Equity, the bundled evidence-informed intervention set to improve health outcomes. The bundled intervention was set to address the medical needs and reduce inequities in the health care system through a 3-pronged culturally relevant interventions: 1) Red Carpet Services- Intensified clinical and social supports for Black women with HIV, 2) Trauma Informed Care: Guiding principle in realizing the widespread impact of trauma and understand paths for recovery while actively avoid re-traumatization and 3) Prime Time Sister Circle: A 12-week wellness program intended to reduce health disparities and improve outcomes.

Results: Study findings have shown improvement in the HIV Continuum, lifestyle changes while outcome measures have led to the creation of a housing program, highlighting the importance of program sustainability. We found that among the total 46 participants enrolled, 14 of those enrolled in PTSC had increased optimal blood pressure (50% to 57%) compared to non PTSC enrolled participants, a 15% increased CD4 levels (57% to 72%), and LDL levels (<100 mg/dL) lowered from 43% to 36% at the six-month mark compared to participants who did not enroll in PTSC.

Conclusions: The implementation of a bundled intervention has the potential to improve the quality of life, HIV management and improve health outcomes in Black women with HIV. Thus, furthering the replication of such initiative throughout the US. Overall, the clinical outcomes in HIV RNA, CD4 count, blood pressure, LDL and diabetes showed improvement for those enrolled in SHE but particularly those enrolled in PTSC. We would add that PTSC had a stronger effect at 6 months comparatively.

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Enhancing Peer Involvement in Care (EPIC): Amplifying the Voices of Black Cisgender Women in HIV Care

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U.S. Black cisgender women are disproportionately impacted by HIV, accounting for more than half of new diagnoses among women (CDC, 2021). Furthermore, the mortality rate of Black cisgender women living with HIV (BCGWH) is over 20 times higher than non-Hispanic White women (Pellegrino et al., 2021). Such disparities suggest that HIV cannot be viewed entirely as a medical condition but one impacted by multiple social determinants of health (SDH), such as poverty, under-education, lack of accessible mental health services, and harmful drug use, as well as racism and sexism. These SDHs can complicate HIV service delivery and hinder successful movement through the HIV Continuum of Care.

Enhancing Peer Involvement in Care (EPIC) is a low-cost, low-burden intervention. This intervention provides educational and skill-building activities to improve HIV peer navigation programs. EPIC aims to integrate health literacy to counter medical mistrust, health systems navigation across the HIV Continuum of Care, self-care management to increase resilience, and trauma-informed and gender-responsiveness concepts to counter stigma as the foundation of an innovative small group, three-session intervention for increasing the retention of black cisgender women living with HIV (BCGWH) in care and achieving viral suppression.

Over two years, data indicated significant knowledge, attitudes, and skills changes among participating peer navigators (n=14).

1. Knowledge. Overall, navigators reported a greater understanding of the role of the HIV Care Continuum in monitoring access, engagement, retention, and adherence to HIV care.
2. Attitudes. Overall, navigators reported positive changes in attitudes about their role in enhancing client health and quality of life.
3. Skills. Overall, navigators reported several increases in their skill set related to understanding

and explaining the information from medical providers to their clients, collaboratively developing and monitoring a care plan in partnership with the client that prioritizes their goals, assessing if a client is having mental health challenges, and developing a harm reduction plan with clients who are using recreational drugs.

Data also indicates significant participant satisfaction, knowledge gains, and changes in attitudes and skills among BCGWH (n=160) utilizing navigation services.

1. Knowledge. Participants demonstrated the most significant gains related to potential signs of medical mistrust, the definition of health literacy, and the difference between HIV and AIDS.
2. Attitudes. Participants experienced a reduction in internalized stigma by understanding and identifying their pathways (or susceptibility) to HIV and identifying ways they can increase their resiliency from an HIV diagnosis.
3. Satisfaction. Overall, clients were delighted with their experience participating in EPIC. Across the board, clients reported scores above 4.5 (on a scale of 1-5), which continued to increase over the three sessions. Clients overwhelmingly appreciated the space created through EPIC and frequently wanted more sessions.

The results of the EPIC intervention suggest:

1. Increasing the involvement of BCGWH in the delivery of navigation services.
2. Increasing small group interventions to counter isolation and increase socialization.
3. Integrating mapping of service utilization and self-care management tools in HIV care.

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Contraception in HIV Women after Pregnancy: Condesa's Clinics, Mexico City

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Purpose: Describe the contraception in women with HIV after pregnancy in two Specialized Clinics of Public Health Service of Mexico City.

Methods: Descriptive study of a cohort of pregnant women with HIV/aids at two Specialized Clinics, from August 2013 to November 2023. All patients were pregnant, healthcare providers (nurses, social workers, MD) offer contraceptive methods since first consultation and in every consultation we introduce about several options of contraceptives.

Results: 275 HIV women with previous pregnancy. Virologic suppression (181), virologic failure (18), lost to follow-up (71), deaths (5). Age at diagnosis of HIV 23.6 years old(SD 7.55), years living with HIV 7.6 years (SD 5.5), age actually 31.2 years old(SD 6.45). Education: Illiteracy 5.8%(16), primary 24.6%(68), secondary 41.3%(114), high school 20.3%(56), university 6.5%(18), master 0.4%(1). Occupation: Unpaid employment 71.6%(197), employed 22.1%(61), student 2.9%(8), in street 2.9%(8), in jail 0.4%(1). Marital status: Common-law union 73.4%(202), single 26.4%(73). Partner HIV status: Serodiscordant 49.8%(137), concordant 39.2%(108), unknown 10.9%(30). Sexual onset at 16.7 years old(SD 2.7). Resolution of pregnancy. C-section birth 88%(242), natural births 6.2%(17), legal interruption 2.5%(7), spontaneous abortion 3.3%(9).

The formulations of contraceptives examined: Implanon®, Jadelle®, Mirena®, MiaCare®. Birth control method: 87.6% with contraception (sterilization, long-acting and short-acting). Definitive family planning or sterilization 57.4%(158), long-acting reversible 29.4% (81), condoms (short-acting) 0.7%(2). No family planning method 12.3%(34). For women with sterilization and non-barrier modern contraceptive (such intrauterine device, implants), we always recommended the simultaneous use of a condom to provide protection against other sexually transmitted infections (STIs). We don't use oral contraceptive pills (OCPs) for prevent to suboptimal adherence to ART and women can forgetting to take the pill every day.

Conclusion: Contraception in women with HIV after pregnancy were a team work we provide counseling, prenatal control, and multidisciplinary treatment. We achieved to accept a family planning method in 87.6% of patients but 12.3% no family planning, for this we need to work with the patients about benefits of family planning.

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Bridging the Gap: Co-Creating Community-Centric Resources from Clinical Practice Guidelines for HIV Pregnancy Planning in the Canadian Context

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Background: Recent studies indicate that while the dissemination of Clinical Practice Guidelines (CPGs) has improved clinical outcomes, there remains a critical gap in adapting these guidelines for patient and community use. While the Canadian HIV Pregnancy Planning Guidelines (CHPPG) provide a framework for clinicians to support the reproductive and parenting planning needs of people with HIV, to fully integrate evidence and CPGs into practice, the creation of resources tailored for patients and community members is paramount.

Methods: In 2019, the CHPPG Implementation team engaged three community consultants with diverse expertise to enhance community dissemination. Collaborations between these consultants, clinicians, and our research team led to a partnership with The Public, an activist design studio. Together, we facilitated a co-creation process to produce CHPPG-informed resources tailored for the community.

Results: Through a co-design process involving 11 individuals with HIV from across Canada, the team developed a comprehensive multimedia digital toolkit. This toolkit, informed by both academic research and lived experience, provides a unique intersectional perspective aimed at empowering individuals with HIV to advocate for their parenting planning options and rights. Notably, the toolkit features vignettes and audio recordings of five personal parenting planning journeys, offering a deeply personal and relatable touch. The toolkit has been well-received in initial community feedback sessions, indicating its potential as a valuable resource.

Conclusions/Implications: The development and dissemination of CPGs tailored for community audiences are seldom documented, yet our project demonstrates the feasibility and impact of such an approach. The digital toolkit, led and informed by community consultants, design team members, and research team mentors, exemplifies a successful co-design framework. This model not only fosters effective community engagement but also sets a precedent for future initiatives aiming to translate complex guidelines into accessible, community-driven resources. Further research will explore the toolkit's long-term impact on community empowerment and health outcomes.

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Awareness and Acceptability of HIV Pre-exposure Prophylaxis among HIV-Negative Pregnant and Breastfeeding Women in Zambia: Analysis of ZAMPHIA 2021

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Background: Since 2020, Zambia has been scaling-up HIV pre-exposure prophylaxis (PrEP) services in Maternal Newborn Child Health (MNCH) clinics to prevent incident HIV infections among pregnant and breastfeeding women (PBFW). We assessed PrEP awareness and acceptability among HIV-negative PBFW in Zambia during this scale-up period.

Methods: We analyzed PrEP awareness and acceptability among HIV-negative PBFW aged 15-50 years old using the 2021 Zambia Population-Based HIV/AIDS Impact Assessment (ZAMPHIA). We used descriptive statistics (with chi-square tests) to describe demographic and behavioral characteristics of PrEP awareness and acceptability among PBFWs and age-matched women who were

not pregnant/breastfeeding (non-PBFW) and conducted weighted multivariable regression analysis for predictors of PrEP awareness and acceptability among PBFW and non-PBFW. All analyses were weighted to account for complex survey design.

Results: Of the 2,132 HIV-negative PBFW, 24.3% (95% CI: 21.6-27.2) reported PrEP awareness. Within age groups, 19.6% (95% CI:16.7-22.7) of PBFW aged 15-24 years and 29.1% (95% CI: 24.8-33.6) aged 25-34 years reported PrEP awareness. PrEP awareness was significantly higher for urban residents compared to rural ($p<0.001$), higher levels of education compared to lower ($p<0.001$), higher wealth quintiles compared to lower ($p<0.001$) and having sexual partners living with HIV compared to without ($p<0.001$). PrEP acceptability among PBFW was 68.2% (95% CI: 65.1-71.4) and was significantly higher for PBFW with more lifetime sexual partners compared to fewer ($p<0.007$) and one or more sexual partners in the last 12 months compared to none ($p<0.034$)

Predictors of PrEP awareness included having tertiary education compared to no education (aOR 3.96 [95% CI: 1.93-8.12]; $p<0.001$), being of highest wealth quintile compared to lowest (aOR 3.81 [95% CI: 2.15-6.74]; $p<0.001$) and having sexual partners living with HIV compared to without (aOR 9.21 [95% CI: 2.98-28.48]; $p<0.001$). Predictors for PrEP acceptability was having two or more lifetime sexual partners compared to one (aOR 1.54 [95% CI: 1.21-1.94]; $p<0.001$). PrEP awareness (aOR 1.06 [95% CI: 0.83-1.35]; $p=0.652$) and acceptability (aOR 1.09 [95% CI: 0.95-1.26]; $p=0.205$) did not differ comparing PBFW to non-PBFW.

Conclusions: Despite considerable PrEP scale-up in MNCH clinics, PrEP awareness among PBFW is low in Zambia and is not significantly different compared to non-PBFW. However, majority of PBFW and non-PBFW are willing to take PrEP to prevent HIV. Efforts to improve PrEP awareness and uptake among PBFW are needed, that address the identified disparities, to prevent incident maternal HIV infection and contribute to eliminating vertical HIV transmission.

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Maternal HIV Transmission: A Cohort Study in the Southwestern US

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Background: Significant progress has been made in preventing perinatal transmission of HIV. The current prophylaxis regimens are highly effective, but transmission of HIV from mother to child is still possible. It is important to obtain more precise estimates of maternal-child HIV transmission rates and identify factors associated with ongoing maternal-child HIV transmission. HIV infection and the use of antiretroviral regimens during pregnancy have also shown increased rates of low birth weight (LBW) and premature birth. This study aimed to determine the transmission rate of HIV over time among children seen at a Southwestern US pediatric HIV clinic. The association of factors such as prenatal care, type of delivery, use of prophylaxis, year of birth, maternal CD4, maternal viral load, and time of maternal diagnosis with perinatal HIV transmission was investigated.

Material and Methods: The study utilized a retrospective chart review of all HIV-exposed infants <18 months of age referred from January 1, 1995, to June 1, 2022. The distributions of demographic variables and risk factors were summarized using frequencies/percentages for categorical variables, and mean/standard deviation for continuous measures. The perinatal HIV transmission rate, percentage of low birth weight and premature infants were estimated among all infants. In order to highlight changes over time: two subgroups of infants, those born 1995-2000 and those born 2016-2020 were compared.

Results: There were 661 infants seen in the clinic. Thirty-nine percent were African American, 53% were Caucasian and 3% were Native American. Thirty-three percent were Hispanic. The mean age of mothers was 29.5 years (SD=6.5). The overall HIV transmission rate was 2.9%. The early transmission rate was 14% and the later transmission rate was 2.2%. There were no transmissions for mothers with VL<1000. Recent

infections have been in children of women who did not receive prenatal care, and in children of women who contracted HIV and breast fed after a negative HIV test at delivery. Overall, 21.1% were born premature and 16% were born LBW. In the early cohort, prematurity was 27% and LBW was 20%. In the later cohort, 14% were LBW and 8% were premature. In the total group, for women on a PI-based regimen, prematurity was 25.5% and LBW was 18.2% vs 9.7% prematurity and 20.1% LBW for women on a non-PI regimen.

Conclusions: Over time, transmission rates for the clinic decreased as did rates of low birth weight and prematurity. The transmission rate of HIV among children in Southwestern US has become lower due to more effective medication regimens, increased awareness of the need for perinatal HIV screening, and changes in laws regarding HIV testing in the perinatal setting. Rates of prematurity and low birth weight have also decreased and are coming closer to US norms for HIV-unexposed children-likely due to improved maternal health and decreased medication toxicity. Babies are still being perinatally infected primarily due to women who have not had access to prenatal care, and through breastfeeding in women who become HIV infected after delivery.

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Art Use Limits Vertical Transmission in Latin America, but "Treat-All" Leaves Room for Improvement

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Background: Antiretroviral therapy (ART) during pregnancy and delivery has nearly eliminated vertical transmission (VT) in only 15 countries. The

rate of vertical transmission in Latin America and the Caribbean (LAC) remains near 15%. We therefore evaluated VT rate in our cohort and studied risk factors for VT risk in LAC.

Methods: Cis-gender women enrolled in HIV clinics in Brazil, Chile, Honduras, and Peru from 2003 to 2018 with ≥ 1 pregnancy at age ≥ 15 years resulting in a live birth after clinic entry contributed data. The primary outcome was the HIV status of newborns. The exposure of interest was women's receipt of ART during pregnancy and at the time of delivery. We used propensity-score-matched logistic regression to examine the weighted odds of vertical transmission by ART use status at delivery. Matching weights incorporated site; HIV RNA, CD4 count, and maternal age at delivery; delivery year; and timing of HIV diagnosis relative to pregnancy. As ART guidelines during pregnancy changed over time, we examined the proportion of women who received ART during pregnancy before and after the treat-all era (defined within each country).

Results: A total of 623 pregnant women with HIV had 727 live births in the study. The median year of first pregnancy was 2012 and the median age at first pregnancy was 27.3 years. Of all births, 613 infants had known HIV status and there were 22 (3.6%) vertical transmission events. Four of the 22 (18%) were born to women on ART at delivery, compared to 403 of 591 (68%) infants negative for HIV. In the propensity-score-matched model, ART use at delivery was associated with 85% decreased odds of vertical transmission (OR=0.15, 95% CI 0.04-0.58). During the pre-treat-all era, 37% (181/485) of women were on ART ≥ 30 days during their pregnancy, compared to 59% (75/128) after the guideline changes ($p < 0.001$). In the pre-treat-all era, 4.3% (21/485) of infants were born HIV-positive, compared to 0.8% (1/128) in the treat-all era.

Conclusions: We found a lower prevalence of VT in our LAC cohort compared to the region overall. ART use during pregnancy and at delivery was associated with a lower probability of vertical transmission and must therefore be universally accessible. Although ART use during pregnancy has greatly improved in the treat-all era, it remains far from universal, and new strategies to improve uptake in LAC are warranted.

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Understanding Mitochondrial Function in Peripheral Blood Mononuclear Cells Isolated from Women Living with HIV

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As new diagnoses surpass deaths each year, HIV is transitioning to a chronic disease hallmarked by daily antiretroviral (ARVs) use. ARVs have been shown to cause deleterious metabolic effects and are hypothesized to contribute to the development of metabolic syndrome in people living with HIV (PLWH). In the United States, an estimated 34% of PLWH have been diagnosed with metabolic syndrome, with 98% of those patients currently on antiretroviral therapy. As ARVs are essential for viral suppression, understanding associated comorbidities of these medications is essential.

Furthermore, women living with HIV (WLWH) are especially impacted, as WLWH experience metabolic syndrome 2.24 times more frequently than their male counterparts. One potential mechanism of the development of metabolic syndrome is the disruption of mitochondrial homeostasis. Under homeostatic conditions, mitochondria are significant contributors to cellular metabolism and provide energy in the form of ATP via oxidative phosphorylation. Mitochondria are also particularly susceptible to damage from reactive oxygen species (ROS), as mitochondrial DNA is not protected by histones like nuclear DNA and not as easily repaired after damage.

While particular ARVs have been linked to an increase in ROS, the true impact and scope of this oxidative stress is unclear, especially as contemporary ARVs have become more common. Furthermore, these analyses have never been investigated in women specifically, a population particularly susceptible to these changes. Considering the effects of ARVs on metabolic outcomes, it is critical to fully understand the

metabolic profile of these treatments, which is possible via examining mitochondria. In this work, we analyzed mitochondrial function and content from peripheral blood mononuclear cells (PBMCs) isolated from 65 WLWH. To test mitochondrial function, we utilized the Seahorse Cell Mito Stress Test, which provides a functional assessment of mitochondrial damage via measuring oxidative phosphorylation.

We also assessed mitochondrial content via qPCR as a second marker of mitochondrial health. Basal respiration, proton leak, maximum respiration, non-mitochondrial oxygen consumption and mitochondrial content were analyzed via a multiple linear regression. Results indicated significant variation in mitochondrial respiration between participants, suggesting the potential for certain clinical factors to be driving these outcomes. Future work will involve assessing if there are any clinical associations with these mitochondrial markers of health. This work allows us to fully characterize mitochondrial function in WLWH, and to better understand potential metabolic damage as a result of HIV infection and ARV use.

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Significant Sex Differences in Antiretroviral Treatment of Young Patients Living with HIV—Results from the DONNA Study (ART in Women of Childbearing Potential)

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Background: In general, HIV treatment guidelines do not address sex differences in antiretroviral treatment (ART) with exception of recommendations for pregnant women. There is a paucity of data regarding ART in women of reproductive age compared to ART in men of the

same age. DONNA aims to analyze potential sex differences in ART.

Methods: The DONNA study is a retrospective observational study analyzing ART in men and women aged 18-50 at a German university outpatient clinic between 2012 and 2022. Primary study objectives: Potential sex differences in ART and ART changes due to pregnancy.

Results: Patients per year (mean): n=1.172; 776 (66%) men, 393 (34%) women. We observed significant differences regarding the use of NRTI, NNRTI, protease inhibitors (PI) and integrase inhibitors (INI) in women and men. NRTI: Tenofovirafenamid was prescribed earlier and more frequently in men ($p < 0.0001$). NNRTI: From 2017 onwards more rilpivirine was used in women ($p < 0.0001$). PI: In total less use over time in both sexes; from 2018 onwards PI were used significantly less in women ($p < 0.0001$); especially darunavir/cobicistat ($p = 0.013$). INI: Overall, INI were used significantly more frequently in men ($p < 0.0001$); especially, dolutegravir and bictegravir were used less frequently in women ($p < 0.0001$). Percentage of changes in ART due to pregnancy ranged from 7% to 25% with no trend over time.

Conclusions: Our findings demonstrate significant sex differences in ART in patients aged 18-50, most likely due to safety concerns in case of unplanned pregnancies. Nevertheless, we also observed a remarkable number of treatment changes in pregnant women.

The delayed use of newer HIV drugs might put young women at disadvantage in treatment. Our data support the ongoing call to action to enable pregnant women to participate in clinical trials and thus move from protection from research to protection through research.

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Socio-Economic Inequalities in the Coverage of Cervical Cancer Screening Among Women Living With HIV and Those Not Living With HIV in Five Sub-Saharan African Countries

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Background: Cervical cancer is the most diagnosed cancer among women living in the majority of low- and middle-income countries (LMICs). Various screening tests for cervical cancer like HPV DNA testing, pap smear, and visual inspection with acetic acid are used to screen women in the general population. Women living with HIV (LWH) are at a high risk of developing cervical cancer and the World Health Organization recommends that they are screened from the age of 25 years. Although studies have reported on the utilization of cervical cancer screening by LWH, there is a need to describe the inequalities in access to these services. Understanding the disparities in access to cervical cancer screening by LWH can provide evidence on where to focus interventions that reduce the gap in cervical cancer care in this population. We describe the socioeconomic inequalities in the coverage of cervical cancer screening among LWH and those not living with HIV (NLWH) in Sub-Saharan Africa.

Materials and methods: We conducted a weighted secondary data analysis of the Demographic and Health Surveys (DHS) completed in Cameroon, Ivory Coast, Lesotho, Namibia, and Zimbabwe. These were the only countries that tested women for HIV and had questions on cervical cancer screening in DHS between 2010 and 2019. We included women aged 25 to 49 years with HIV test results. Absolute and relative socioeconomic inequalities were calculated using the Slope Index of Inequality and Concentration Index respectively by wealth quintile.

Results: A total of 22,420 women were included in this study (3,444 LWH and 18,976 NLWH). Among women living with HIV (WLH), the proportion of women who had ever heard about cervical cancer ranged from as low as 41.0% in Ivory Coast to as high as 83.3% in Zimbabwe. Among women not living with HIV (NLWH), the proportion of women who had ever heard about cervical cancer ranged from as low as 28.9% in Ivory Coast to as high as 78.4% in Zimbabwe. Among WLH, the proportion of women who had ever screened for cervical cancer ranged from as low as 1.8% in Ivory Coast to as high as 33.5% in Namibia. Among NLWH, the proportion of women who had ever screened for cervical cancer ranged from as low as 0.2% in Ivory Coast to as high as 23.3% in Namibia. In all the countries, higher proportions of women in the richest wealth quintile were screened compared to those in the poorest wealth quintile. In all the countries, higher proportions of women in the urban areas were screened compared to those in the rural areas.

Conclusion: There are higher rates of cervical cancer screening among women living with HIV compared to the general population. Also, there exists pro-rich and pro-urban inequalities in the utilization of cervical cancer screening. Cervical cancer screening programs in countries in sub-Saharan Africa need to reduce these inequalities.

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Abstract 76 was withdrawn.

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Molecular Bioprofiles Are Distinct for Virally Suppressed Young Women or Young Men with HIV on Antiretroviral Therapy (ART)

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Introduction: Misogyny, a historical issue in medical research, has resulted in care and treatment disadvantages for women, particularly evident in HIV studies. While women constitute 53% of people living with HIV and 46% of new infections, their participation in clinical studies is disproportionately low: only 19% in HIV treatment studies, 38% in HIV vaccine studies, and a mere 11% in HIV cure research. The current study focuses on peripheral blood biomarkers and cellular gene expression among young women versus young men without or with HIV to define molecular bioprofiles associated with gender.

Methods: Blood samples were obtained from 90 young adults [median age: 23 years (quartile range 22-25)] including: 33 women [16 without HIV (WwoH) and 17 with HIV (WwH)]; and 57 men [26 without HIV (MwoH) and 31 with HIV (MwH)]. Comparisons were made between WwoH and MwoH, and WwH and MwH to determine the effect of gender without and with HIV. Similarities in age and CD4 T-cell count among all groups, and low co-morbidities and undetectable viral load (≤ 50 HIV-1 RNA copies/ml plasma on ART) in young women and young men with HIV rendered assessment of gender effects feasible.

Twenty-three plasma immune biomarkers associated with immune activation and inflammation were measured using Mesoscale Diagnostics multiplex assays. Individual biomarkers between women and men without or with HIV were compared by Mann-Whitney test. mRNA was extracted from peripheral blood cells and sequenced using Illumina HiSeq 2500. Analysis of differentially expressed genes (DEGs) employed R

package DESeq2 ($|FC| \geq 1.3$ and $FDR \leq 0.05$). Significant DEGs were identified by volcano plot ($|FC| \geq 2$) with Enhanced Volcano R package. Pathway analysis was performed on the DEGs using Ingenuity Pathway Analysis [$P < 0.001$; Z-scores ≥ 1 (activation)/ ≤ -1 (suppression)].

Results: WwoH compared with MwoH showed increased concentrations of immune activation marker MMP2 and inflammatory marker IL-6 with similar levels in the other biomarkers. WwH compared with MwH had higher concentrations of LBP, a marker of microbial translocation, and vascular inflammatory marker sICAM-1 with similar concentrations in the other biomarkers. In young adults without HIV, the gender effect at the transcriptome level was reflected in upregulation of X-linked and down-regulation of Y-linked genes, and a more active interferon α/β signaling pathway among WwoH. Among young adults with HIV and ART-controlled viremia, women compared to men exhibited an upregulation of MARCH2 (HIV inhibitor) and multiple RNA genes (RNA5S15, RNA5-8S5, RNA57SL2, SNORA10, MIR3648.1, MIR6753), down-regulation of IL-7 (a T cell development cytokine) and Y-linked genes, and activation of multiple pathways related to protein synthesis, immune response, anti-oxidation, and metabolism.

Conclusions: Distinct molecular bioprofiles were observed between young women and young men. The gender effect is remarkably amplified in response to HIV-infection, and is detectable despite viral suppression by ART. The results form the basis to develop inclusive clinical studies for appropriate gender-centered HIV care, treatment, and cures.

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Obesity-Associated Comorbidities in Women Living with HIV Presenting to a Primary Health Care Center in Cape Town, South Africa

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Background: Antiretroviral therapy (ART) increased life expectancy of people living with HIV with an increased prevalence of non-communicable diseases, including obesity and metabolic syndrome (MetS). Obesity rates in South Africa are approaching that of high-income countries, and amongst women living with HIV the prevalence of obesity is 23.6%. Obesity-associated comorbidities in women living with HIV are not well described. We conducted a cross-sectional study to characterize obesity-related comorbidities in obese women living with HIV presenting to a primary health care center for HIV care. This investigation is a sub-study of the SMART study (NCT05571319).

Material and methods: Our recruiters invited phenotypically obese women living with HIV who were otherwise healthy from the Gugulethu Community Health Centre for screening assessments. Participants were stable on ART for ≥ 12 months and virally suppressed (< 50 copies/mL). We excluded participants who were known diabetics, smokers or ex-smokers (< 10 years), or abused alcohol. Assessments included anthropometric measurements, physical and biochemical investigations for MetS (Harmonised definition that included a glycated hemoglobin (HbA1c) of 5.7-6.4%), and measurement of endothelial function using the EndoPAT[®] device. EndoPAT[®] is a non-invasive, point-of-care device

that measures arterial flow-mediated dilation changes in finger peripheral arterial beds. Selected participants enrolled in the parent study further underwent neurocognitive assessments calculated as a global Z-score and a dual-energy X-ray absorptiometry (DEXA) quantification of body fat percentage.

Results: We currently enrolled 33 participants, all female and of African ethnicity with a mean \pm SD age of 44.6 ± 9 years and median (IQR) CD4-count of 599 (475-796) cells/mm³. The mean time since HIV diagnosis was 14.1 ± 5.9 years, and mean time since initiation of ART was 12.0 ± 4.8 years. Eighty two percent (27/33) of participants were established on TDF/3TC/DTG. Their mean weight was 113.2 ± 18.7 kg and median BMI was 44.0 (38.86-49.84) kg/m². Participants classified as overweight (BMI 25.0-29.9 kg/m²), obese class II (BMI 35.0-39.9 kg/m²) and obese class III (BMI ≥ 40.0 kg/m²) were 1(3%), 10 (30.3%), and 22 (66.7%), respectively. Fourteen participants had DEXA results available, and the mean total body fat percentage was $53.1 \pm 4.0\%$.

Seventy three percent (24/33) of participants met the definition of MetS. Forty eight percent (16/33) had uncontrolled blood pressure ($\geq 140/90$ mmHg); of these, 4 were newly diagnosed not on treatment. The mean HbA1c of the cohort was $5.7 \pm 0.41\%$, and 55% (18/33) of participants had impaired glucose tolerance (HbA1c 5.7-6.4%). Five participants (15%) had confirmed endothelial dysfunction (reactive hyperemia index ≤ 0.51). Total body fat percentage was associated with poorer endothelial function ($p = 0.03$). Neurocognitive performance was assessed in 16 participants and increased weight ($p = 0.03$) and BMI ($p = 0.03$) were associated with poorer cognitive performance. The effect remained when adjusted for systolic blood pressure, but not when adjusted for other variables.

Conclusion: We found that approximately 3 in 4 obese women living with HIV and virally suppressed on ART met the criteria for MetS. Our preliminary results suggest that obesity may be associated with poor performance on cognitive testing.

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T Helper Cell Subsets and Integrin $\alpha 4\beta 7$ and $\alpha 4\beta 1$ Expression in TB/HIV Co-Infection

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Background: CD4+ T cell responses are crucial for Mycobacterium tuberculosis (Mtb) control. HIV mediated depletion of Mtb-specific CD4 + T cells leads to increased susceptibility to tuberculosis (TB), faster disease progression and increased risk of TB reactivation.

Methods: Using the samples from the CAPRISA 011 Improving Retreatment Success (IMPRESS) trial (n=70) we characterised memory CD4 + T cell phenotypes in TB-infected and TB/HIV co-infected participants. Additionally, we assessed the impact of TB treatment completion on the changes in memory CD4+ T cell phenotype as well as characterised the effect of systemic CD4 + T cell subsets during active TB on the presence of cavitory disease and time to Mtb clearance.

Results: A higher percentage of Th2 (p=0.0267) and lower percentage of Th9 cells (p=0.0001) were observed in TB/HIV co-infected participants compared to healthy controls. TB/HIV co-infected participants had a significantly lower percentage of Th17.1 (p=0.0263) and higher percentage of CCR6+DN (p=0.0299) and CCR6+DP (p=0.0144) cells compared to TB-infected participants. TB/HIV co-infected participants had a higher percentage of $\alpha 4\beta 1$ and $\alpha 4\beta 7$ expressing memory CD4+ T cells in comparison to healthy controls. Additionally, TB/HIV co-infected participants had higher percentage of $\alpha 4\beta 7$ (p=0.0011) and $\alpha 4\beta 7hi$ (p=0.0425) expressing memory CD4+ T cells compared to TB participants. Following TB treatment completion, we observed a significant increase in percentage of CCR6+DP cells (p=0.0481) in the total cohort. We observed no significant

association between memory CD4+ T subtypes with time to culture conversion and cavitory disease in the total cohort and among TB/HIV co-infected individuals, likely due to limited sample size.

Conclusion: During active TB, HIV induces changes in CD4+ T cell subset distribution and lymphocyte trafficking marker expression that may have detrimental effects on Mtb control.

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HIV Prevalence and Its Correlation With Violence, Stigma and Discrimination Among Female Sex Workers in Nigeria

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Background: Female sex workers (FSWs) are at high risk for HIV transmission. FSWS frequently face societal prejudices and discriminatory practices, hindering their access to HIV prevention services and support. This study aimed to explore the relationship between HIV prevalence and the experiences of violence, stigma and discrimination among female sex workers (FSWs) in Nigeria.

Method: The study employed a cross sectional design to randomly select female sex workers using a multistage sampling method. In the first stage, 12 states were selected across the six geopolitical zones in Nigeria while 93 hotspots were selected in the second stage using a sampling frame technique. A total of 4190 FSWS were interviewed using structured questionnaires to collect data on HIV prevalence by hot spot typology, violence, harassment, and stigma. Descriptive statistical analysis was done using STATA statistical software version 15. Ethical approval was obtained from the National Health Research Ethics Committee (NHREC).

Result: The overall HIV prevalence among FSWS was 15.5%, with distinct variations observed among different spot typologies. Home-based

settings have the highest prevalence at 19%, followed closely by parks/transport stops and brothels at 18% and 17%, respectively. Other notable prevalence rates included hotel/lodge (15.1%) and street/public place (15.0%). Forced sex emerged as a significant concern, with approximately 9% of FSWs reporting instances in the last 12 months. An alarming 41.9% reported being forced to have sex solely because of their status as FSWs, and 33% were compelled to engage in intercourse without the use of condoms. Harassment was prevalent, with 37.5% of FSWs reporting encounters with law enforcement, 4.7% facing eviction, and 3.3% being victims of mob/group violence. The frequency of harassment varied, with 27% reporting it often, 57.6% more than once, and 13.9% very often.

Stigma and discrimination against people living with HIV (PLHIV) were widespread among FSWs, with 70% reporting various incidents. A significant proportion (29%) expressed hesitancy to seek HIV-positive services due to fear of stigma. Negative perceptions about PLHIV included people talking badly about them (51%), health workers engaging in similar behavior (31%), loss of respect (47%), verbal insults, harassment, and threats (38%), and unauthorized disclosure of HIV status by people (46%) and health workers (26%) respectively.(46%). Additionally, 31% would avoid seeking services associated with HIV-positive individuals due to fear of stigma.

Conclusion: This study underscores the critical link between HIV prevalence and the challenges faced by FSWs, including forced sex, harassment, and stigma. Targeted interventions are essential to address the multifaceted issues affecting this vulnerable population for improved access to HIV-related services. Additionally, addressing stigma and discrimination is therefore pivotal in creating an environment that facilitates prevention, testing, and treatment for FSWs, ultimately contributing to effective HIV control strategies

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Mitigating HIV Among High-Risk Women: Delivery of HIV Services to Female Sex Workers in the USAID CHEKUP I Project in 7 Districts of Zambia

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Background: Compared to HIV prevalence among women in the general population (13.2%), female sex workers (FSW) bear an inordinate burden of HIV in Zambia, with a 2023 bio-behavioral survey reporting HIV prevalence of between 32.0% .and 45.4% in six (6) districts. Reaching FSW with HIV services is crucial for Zambia to achieve the 95-95-95 targets. We describe the implementation of a community-based intervention to improve access to HIV prevention, treatment and care among FSW.

Methods: The USAID-funded Controlling HIV Epidemic for Key and Underserved Populations (CHEKUP) I is implementing a key populations (KP) program – which includes FSW - in seven (7) districts of Zambia. Community-based KP Wellness Centers linked to government health facilities have been established, run by key populations civil society organizations (KP CSOs), who undertake mobilization and community outreach activities, health education, tracking and referral of FSW for HIV services. KP CSOs through their peer promoters and outreach workers also run support groups to improve adherence to treatment and retention in care. The government health facilities provide health care providers and HIV commodities.

Results: Between December 2021 and September 2023,14,985 FSW were reached with HIV prevention, treatment, and care services; 7372 were tested for HIV, with 1942 (26%) testing HIV-positive. Out of 1,942 FSW who tested HIV-positive, 1,911(98%) were initiated on antiretroviral therapy (ART) whilst out of 5,439,

who tested HIV negative, 3,479 (64%) were initiated on pre-exposure prophylaxis (PrEP), and none of the FSW initiated on PrEP sero-converting during the period, clearly demonstrating the effectiveness of the HIV prevention activities being implemented by the project. 246,134 condoms and 117,335 lubricants were distributed whilst viral load coverage and viral suppression stood at 78% and 95%, respectively.

Conclusions: The burden of HIV remains high among FSW in Zambia, clearly demonstrating the need for HIV prevention, treatment, and care if Zambia is to successfully achieve epidemic control. Reducing the burden of HIV is also crucial for reducing the risk of mother-to-child transmission of HIV among FSW and ensuring access to and retention in HIV care among children of FSW, which are all important to Zambia's quest to achieve epidemic control.

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“Mas Por Nosotras”: Baseline Characteristics of a Cohort of Female Sex Workers in Buenos Aires, Argentina

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Background: Female sex workers (FSW) face marginalization, physical and sexual violence, social inequities, precarious working conditions, and economic hardship, leading to limited access to healthcare and health disparities which were exacerbated during the COVID pandemic. Our ultimate goal is to evaluate the sexual and reproductive health and rights status of FSW in Argentina and determine the feasibility of

implementing a comprehensive healthcare package.

Material and Methods: We began enrollment of a prospective cohort of cisgender (CGW) and transgender (TGW) FSW in June 2023 at a non-governmental research organization in Argentina, through collaboration with the Ministry of Health of Buenos Aires City, and a Canadian research team. After providing written consent, they complete questionnaires and undergo medical assessment for HIV and sexually transmitted infections and will be followed prospectively. We describe some of the baseline demographic, clinical and psychosocial participant data.

Results: From June to December 2023, 116 FSW were enrolled, 61 TGW (52.6%) and 55 CGW (47.6%). The median age was 29 [IQR 24-37] for TGW and 41 [IQR 33-50] for CGW ($p < 0.001$). 71% of the cohort were born in Argentina (TGW: 74%; CGW: 67%), and of these, 61% were born in a city other than Buenos Aires (TGW: 84%; CGW: 32%; $p < 0.001$). The highest level of education was incomplete secondary school or less in 57% of the cases (TGW: 59%; CGW: 55%). Among CGW, 71.7% had children, and no TGW had children under care ($p < 0.001$). The median age at sex work initiation was 18 years [IQR: 15-20] for TGW and 23 [IQR: 20-30] for CGW ($p < 0.001$), and the median years on sex work was 12 [IQR: 6-19]. 67% worked on the street (TGW: 90%; CGW: 40%; $p < 0.001$), and in 91% sex work was their main source of income (TGW: 95%; CGW: 86%). 20.7% were knowingly HIV positive, most of them TGW (23/24). Among those without HIV, 26.8% were receiving Pre-exposure Prophylaxis (all of them TGW). 16.1% reported a prior syphilis diagnosed (TGW: 27.1%; CGW: 3.8%). While 60% of CGW were current smokers (median pack/years: 11 [IQR: 5-19]), 51% of TGW had never smoked. In contrast, 70% of TGW used drugs, mostly marijuana (64%) and cocaine (62%), with 48% of CGW that had never used drugs. 80% reported current alcohol consumption (TGW: 89%; CGW: 72%).

Conclusions: Understanding the demographic, social and health status of the FSW is crucial for our design of a comprehensive health care program that can be implemented prior to the next pandemic. Differences in the characteristics of the TGW and CGW emphasizes the need to tailor prevention and care programs for different FSW populations. Funding: International Development Research Centre, Project 110045-001.

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Quality of Life of Hiv-Infected Women of the Reproductive Age

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Background: HIV-infected people who inject drugs are a particularly vulnerable group of patients, not only due to the presence of a number of diseases, but also due to social pressure from society, stigmatization, and self-discrimination, which affects their quality of life. Women of childbearing age from this group of patients especially need conditions for successful rehabilitation and adaptation to life in society.

Materials and methods: the material of the epidemiological study were the epidemiological data of patients diagnosed with HIV-infection, identified in 2000-2022. in Minsk, demographic indicators; statistical and analytical research methods and an anonymous survey method were used.

The questionnaire included a list of general questions and a standard questionnaire for assessing QoL SF-36. The main group consisted on HIV-infected women of reproductive age receiving methadone maintenance treatment (n1=26), the comparison group - HIV-infected women of reproductive age who were not participants of the methadone maintenance treatment program (n2=47). The analyzed groups were comparable on age, gender, level of education, marital status and employment (p>0.05).

For statistical processing of databases, standard statistical software packages Microsoft Excel 2010, STATISTICA 10, RStudio were used.

Results: There were no significant differences in indicators of physical functioning and general health in the main group and the comparison group (p>0.05). However, differences were identified in the values of bodily pain (Me1=41.0, Me2=51.0) and Role-Physical Functioning (Me1=12.5, Me2=50.0) in the compared groups (p<0.05). The distribution of indicators of the physical component of health in the analyzed groups indicated the presence of significant

differences between them (Me1=37.3, Me2=42.7, p<0.05).

Analysis of the psychological component of the respondents' health showed the presence of significant differences in the compared groups in terms of vitality (Me1=40.0, Me1=50.0, p<0.01). The values of indicators of social, role-emotional functioning, and mental health indicators in the compared groups did not differ significantly (p>0.05).

Conclusions: HIV-infected women of childbearing age who inject drugs and take methadone maintenance treatment have lower scores on the physical component of QoL.

We believe that this trend is due to the conditions for participation in substitution therapy programs both in Minsk and on the territory of the republic, which leads to injection drug users with complex somatic health problems turning to these programs.

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Improving Women's Mental Health Outcomes: Implementing the Common Elements Treatment Approach for HIV Positive and Violence Affected Women in Johannesburg, South Africa

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Background: One barrier to ART treatment adherence in South Africa is interpersonal violence (IPV), which can also affect mental health. The Common Elements Treatment Approach (CETA) is an evidence-based intervention that can be delivered by lay health cadres and simultaneously addresses mental health and other related

problems, such as IPV. This intervention has been successful in reducing mental health symptoms and IPV occurrence in other low/middle income populations but its impact on health outcomes among women living with HIV has yet to be assessed.

Methods: Between 23rd November 2021 to 19th July 2023, 400 women (≥ 18 years) living with HIV, virally unsuppressed and/or with missed clinic appointment visits who had experienced IPV in the last 12 months, were enrolled into a randomized trial (200 treatment, 200 control) from two sites in Gauteng. Treatment arm participants receive 6-12 weekly CETA sessions from lay-counsellors; control participants receive clinic appointment reminders. All participants received safety assessment and planning, and weekly safety checks. The proportion of study participants experiencing suicidal ideation (SI), homicidal ideation (HI) and current IPV at baseline were calculated along with their level of risk of these events, classifying participants to low-medium risk and high risk.

Results: Total of 156 (78%) treatment cases completed CETA sessions, 44 (22%) were either lost to follow or withdrew before completing CETA sessions. Majority of treatment cases enrolled (70%) had low to medium risk of SI, HI and IPV (SI 19%, HI 21% and IPV 70%), 30% had high risk of same (SI 9%, HI 3% and IPV 30%) and 75% (HI) and 72% (SI) did not indicate any risk. For the control cases, 79% of cases enrolled had low to medium risk (SI 31%, HI 23% and IPV 58%), 21% had high risk (SI 17%, HI 9% and IPV 42%) and 52% (SI) and 68% (HI), did not indicate any risk. Significant number (62% treatment cases, 58% control cases), reported to not be living with their perpetrators. Reported previous attempts at suicide was significant, with 33% in control arm and 47% in the CETA arm. Mental health symptoms, such as depression, stress, anxiety and feeling of sadness were consistent, with 56% of treatment cases and 44% of the control cases reporting at least 2 of the mental health symptoms.

Conclusion: While majority of the cases presented with low-medium risk across HI, SI and IPV, the prevalence and severity of IPV together with the significant rate of mental health symptoms, remains a major concern in this vulnerable population. And even though some participants reported to not currently living with their perpetrators, the extent and lasting effect of trauma experiences from IPV is detrimental to their overall health. Therefore, strategically addressing mental health issues of women living

with HIV, in situations of violence, through a promising evidence based intervention such as CETA, is imperative in the fight towards HIV and mental health continuum.

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Evaluating Interventions Promoting Mental Health and Well-being of Pregnant Women Living with HIV/AIDS in Sub-Saharan Africa: A Systematic Review

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Background: Pregnant women living with HIV/AIDS (PWLHA) face a unique psychological distress that extend beyond the complexities of pregnancy. Evidence from other regions suggest that targeted mental health interventions can improve mental health symptoms, adherence to PMTCT and quality of life. However, a little is known about the effectiveness of mental health interventions for PWLHA in Sub-Saharan Africa (SSA) despite having a larger proportion of women of reproductive age group living with HIV/AIDS. This systematic review aims to synthesize findings from mental health interventions trials for PWLHA in SSA to inform the delivery of mental health services in these settings and promote the mental health and well-being of these demographic.

Methods: Following PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines, a systematic search was conducted across PubMed, Science direct, Cochrane Library, PsycINFO and Africa Online Journal to identify peer-reviewed published papers of intervention trials addressing mental health problems among PWLHA in SSA. The search was not limited by the publication year. Search results were assessed against pre-established inclusion and exclusion criteria. Of the five databases search, 137 studies were identified with 2 studies meeting the inclusion criteria. Data from studies meeting criteria were extracted for synthesis.

Results: The two papers identified described 2 unique interventions. The studies were randomized control trials conducted in Tanzania and Malawi. The Tanzanian study employed Interactive Group Counselling led by nurse-midwife while the Malawian study used Enhanced Friendship Bench intervention which is delivered using task-shifting approach. The content of interventions and length of follow-up differs substantially between the two studies. Both studies reported improved mental health symptoms. Also, the Malawian study revealed that there was improved retention in HIV care and viral suppression. Similarly, the Tanzanian study reported that the intervention did not have significant effect HIV disclosure rate. However, there was an increased personal satisfaction with response from family and friends among women who disclosed.

Conclusion: This review demonstrates the need for methodologically sound studies of mental health interventions for PWLHA in SSA. Therefore, we call for increased partnerships and collaborations between policymakers, practitioners, researchers and communities affected by HIV/AIDS in order to design interventional studies promoting the mental health and well-being of PWLHA in SSA. Also, promising interventions must be further developed and adapted to meet peculiarities of PWLHA.

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A Surey Looking At the Prevalence of Alcohol Use in Our Women Living with HIV (WLWH) Cohort and the Barriers to Discussing Alcohol Use with Health Care Professionals (HCP)

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Background: Our specialist Women's HIV clinic identified that WLWH may be underreporting their alcohol use to HCPs. We wanted to assess and quantify this further in collaboration with the Sussex Beacon Women's group.

Method: We created an anonymous survey assessing alcohol use amongst women and barriers to discussing alcohol use with HCPs. To maximise engagement from WLWH of all demographics, and to ensure acceptability, and that it was concise and user friendly WLWH were involved in the final survey design. The survey was offered to all WLWH attending clinic via QR code and was also texted to all women in our HIV cohort.

Results: We received 57 responses from a cohort of 288 women, representing the views of 20% of our female cohort. Half of all responses were from women from BME backgrounds reflecting and consistent with the diversity of our cohort of women. All respondents were aged over 25 years, 70% were employed full or part time with 23% having no recourse to public funds. 25% of women surveyed did not drink alcohol. The prevalence of excess alcohol use reported was low, however 37% reported that they did not feel comfortable discussing alcohol use with HCP. The free text box allowed for more detail, although the reasons appeared multifactorial, a small significant proportion (7%) said they felt judged by HCP or worried about confidentiality. Those that felt judged by HCP all identified as Black or Black British African. Although the survey was anonymous it is still difficult to assess whether women felt they could share fully honest answers.

Conclusion: Prevalence of alcohol excess was reported as low in this survey, however a significant part of our women's cohort reported that they did not feel comfortable discussing alcohol intake with HCP. Addressing the factors behind this discomfort are challenging, and we remain mindful that survey design can impact result interpretation. Some women felt that their personal alcohol use was not significant enough to discuss it, others cited concerns about judgement and confidentiality. Further research is required to look at the scope of the problem in WLWH's health, including how it interacts with self-stigma, cultural and social taboos. As a service we plan to examine further how HCPs explore sensitive issues such as alcohol and drug use in women.

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Potential Depressive Status Among Women Living With HIV Attending a Tertiary Care HIV Clinic in Colombo, Sri Lanka: Prevalence and Associated Factors

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Background: The presence of mental health issues and identifying them among women living with HIV is an important aspect in the management of their HIV status. It is found that they are more prone to develop a comorbid mental health condition and have overall poorer mental health outcomes compared to their male counterparts and women living without HIV. These conditions can result in poor treatment adherence leading to virological failure. Therefore it is necessary to understand the prevalence and associated factors with mental health issues such as depression among women living with HIV.

Material and Methods: A descriptive cross-sectional study was conducted at the Central HIV Clinic in Colombo, Sri Lanka. Systematic random sampling was done and women living with HIV who are more than 18 years old and on ART for three months or more were included. Data was collected from 79 participants using a pre-tested semi-structured interviewer-administered questionnaire and Patient Health Questionnaire-9. Potential moderate to severe depressive status was categorized as having a score of 10 or more from the Patient Health Questionnaire-9. Univariate analysis was performed to determine the associated factors.

Results: The mean age of the sample was 51 years and 79% had secondary education. Monthly income was less than USD 46 for half of the population and 50% of them were married. The majority had a less than 10-year diagnosis of HIV and were on antiretroviral treatment for 7 years. The current CD4 counts were more than 200 cells/ μ l and the HIV viral load is undetectable for the majority. Almost 85% of the sample were on an efavirenz-based regimen. More than 90% of the

women had a good adherence to antiretroviral treatment.

Only 5% of this sample had features of moderate or severe depressive features detected by the Patient Health Questionnaire-9. Marital status was the only factor found to be significantly associated ($p=0.49$) with having a higher Patient Health Questionnaire-9 score in the univariate analysis.

Conclusions: This sample of women living with HIV has a lower percentage of depressive symptoms, better educational levels, and good HIV disease control. However, further long-term follow-up is necessary to detect depression in the future.

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Transformative Benefits of Integrating Mental Health Services for AGYW Within the DREAMS Programming: A Case of an Integrated Service Delivery Model on the USAID CHEKUP II's DREAMS Initiative in Kapiri Mposhi District, Central Zambia

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Background: Adolescent girls and young women (AGYW) in Zambia face a lot of intersecting challenges, ranging from neglect, broken homes, orphanhood, teen pregnancy, poverty, alcohol and drug abuse, sexual gender-based violence, school dropouts, transactional sex, inconsistent condom use, which make them most vulnerable to HIV acquisition. According to UNAIDS (2021), approximately 9.1% of AGYW aged 15-24 are living with HIV in Zambia. By addressing AGYW challenges in silos, we risk failing to deal with underlying factors affecting their well-being. With the HIV prevalence rate among AGYW in Zambia still a significant national concern, we aimed to ascertain the significance of an integrated service delivery model in the DREAMS Initiative.

Methods: Between October 2022 and September 2023, the USAID Controlling HIV Epidemic for Key and Underserved Populations (CHEKUP II) Activity implemented by JSH, carried out an integrated service delivery model using six thematic pillars tailored for AGYW on the DREAMS (Determined, Resilient, Empowered, AIDS-free, Mentored and Safe) Initiative. Recognizing the significance of addressing the unique challenges and vulnerabilities AGYW face, the Activity implemented the Mental Health and Psychosocial Support (MHSP) component among AGYW, who were screened by trained mentors and teen connectors for anxiety using the Generalized Anxiety Disorder Tool (GAD-7), depression using the Patient's Health Questionnaire Tool (PHQ-9) for AGYW aged 18-24, Severity Measure for Depression, for AGYW aged 11-17, suicide using the Suicide Safety Assessment, and alcohol and substance abuse using the Cut, Annoyed, Guilty and Eye (CAGE- Aid Questionnaire) at various service points. AGYW received one-on-one therapy, group sessions, Psychological First Aid, and referrals for further management at the nearest government health facility, based on their scores and unique needs.

Results: A total of 1,789 AGYW were screened for mental health out of an annual target of 1,092, signifying an achievement of 164%. Of those screened, 178 were put in mental health group sessions, 27 received one-on-one therapy sessions, 1,611 received Psychological First Aid, and 2 were linked for further management at the government health facility.

This approach simultaneously addressed the intersecting challenges AGYW went through, leading to more effective and personalized care, and promoting overall well-being.

Conclusions: Integration of mental health services within the DREAMS Sites reduced barriers to access to services, leading to better health outcomes. When an AGYW is in a good space mentally, they are more likely to benefit from other interventions provided for them. Integration of mental health and psychosocial support in DREAMS Programming is essential for promoting the holistic well-being of AGYW and enhancing the overall effectiveness of the initiative in preventing new HIV infections, supporting AGYW as they navigate through adolescence, and providing them with comprehensive support for their diverse needs.

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Empowering Women: Unveiling the Impact of Psychosocial Support on ART outcomes for Women living with HIV at Zomba Central Hospital Lighthouse Tisungane clinic

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Introduction: Women living with HIV encounter various psychosocial challenges impacting their HIV treatment, care, and well-being. These challenges encompass societal stigma and discrimination, resulting in isolation and mental health struggles like depression and anxiety. Moreover, a significant number experience physical and sexual abuse, contributing to ongoing psychological distress. To address these challenges, Lighthouse Trust implemented a comprehensive psychosocial support program, offering individual and group sessions, psychosocial education, and systematic depression screening and management to help improve treatment adherence, ART retention, and HIV viral load suppression. We aimed to assess the impact of psychosocial interventions on ART outcomes among women living with HIV at Lighthouse Tisungane clinic in Zomba, Malawi.

Methodology: A retrospective descriptive cross-sectional study was conducted, analyzing records of women aged 15 and above attending the ART clinic at Lighthouse Tisungane clinic in Zomba. The study focused on individuals referred for psychosocial services between February and September 2023. Data, including the reason for referral, age, and outcomes such as being alive in care, transfer out, death, treatment default, viral load suppression, and re-suppression for those with high viral loads, was extracted from both the psychosocial register and the Electronic Medical Record System (EMRS). Utilizing descriptive statistics and proportions, we comprehensively analyzed the data to draw meaningful insights.

Results: During the study period, a cohort of 79 women, with a mean age of 28 years (SD±14.2),

was sampled after being referred for psychosocial services at Lighthouse Tisungane clinic in Zomba. The referrals were attributed to various factors, including challenges in poor adherence (11.4%), gender-based violence (22.8%), high viral load (21.5%), treatment default (5.1%), and other issues (39.2%). Post-referral, prevalent issues included stress (39.2%), social concerns (35.4%), depression (12.7%), and other matters (12.7%).

As of December 2023, the outcomes for the 79 women referred for psychosocial support were as follows: 72 (91.1%) remained alive in care, 5 (6.3%) transferred out, 2 (2.5%) defaulted, and none experienced mortality or cessation of ART. Notably, among the 17 initially referred due to high viral load, 12 (70.5%) achieved viral load re-suppression. In the broader context, an impressive 88.6% (70/79) of women referred for psychosocial support successfully achieved viral suppression (below 1000 copies/ml).

Conclusion: Our study emphasizes the impact of a tailored psychosocial support program on improving ART outcomes for women living with HIV. The results, including a 91.1% retention rate and 88.6% viral suppression, validate the program's effectiveness and highlight the critical role of psychosocial interventions in enhancing overall HIV care.

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Assessing the Association Between Depression, COVID-19 Related PTSD and ART Adherence among Black Women

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Background: Black women in the US disproportionately experience HIV and co-occurring adverse mental health (e.g., depression, post-traumatic stress disorder (PTSD)) which are associated with reduced HIV care engagement and suboptimal antiretroviral therapy (ART) adherence.

To our knowledge, no studies to date have examined the co-occurrence of these phenomena among Black women with HIV (BWH) in the context of the COVID-19 pandemic.

Methods: Between February 2022 and August 2023, baseline data were collected from BWH (n=39) residing in California and Oklahoma participating in a pilot randomized control trial (LinkPositively). LinkPositively is a trauma-informed peer navigation and social networking web application to improve HIV care engagement. A multivariable linear regression model was used to examine the association between depression (measured using the PHQ-9 depression scale), COVID-19 related PTSD (measured using the modified PC-PTSD-5 Scale) and ART adherence (measured using Wilson ART Self-Reported Adherence Scale). Age, education, sexual orientation, current relationship status, current employment status, and income were included as covariates. Fisher's exact test of independence was used for categorical variables and 2-sample tests were used for continuous variables.

Results: On average, participants were 47.6 years of age (IQR: 30.5, 50.5) and diagnosed with HIV for 18.1 years (IQR: 10.0, 25.0). Participants experienced moderate depression (Mean±SD: 10.7 ±6.5); mild COVID-19 related PTSD (1.4±1.6), and self-reported an average 81% ART adherence. COVID-19 related PTSD was marginally positively associated with ART adherence ($\beta = 3.7$, $t(29) = 1.9$, $p=0.07$). Depression was marginally negatively associated with ART adherence ($\beta = -0.7$, $t(29)=-1.4$, $p=0.16$). Accounting for sociodemographics, depression and COVID-19 related PTSD were marginally significantly associated with reduced ART adherence ($R^2= 0.1$, $F(2,29) = 2.1$, $p=0.14$).

Conclusions: BWH continue to be affected by depression and PTSD which may impact ART adherence; this can be compounded by the co-occurring global pandemics of HIV and COVID-19. Additional quantitative research with a larger sample size is needed to examine the long-term impact of these mental health phenomena on HIV outcomes among BWH, particularly in light of the social and structural drivers that overlap both epidemics (e.g., medical mistrust, discrimination).

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Exploring Depression among Women of Child Bearing Age and Dietary Diversity in Mother-Child Dyads in Gauteng, South Africa

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Background: Children born to HIV-infected mothers often face challenges in nutritional well-being, with maternal depression potentially exacerbating these difficulties. We assess the maternal and child dietary diversity and concurrently examine the occurrence of depression among women in Gauteng, South Africa.

Methods: We conducted a cross-sectional analysis, examining a sub-set of 1150 mother-baby pairs enrolled in the PEAD-Link trial (Pan African Clinical Trials Registry number: PACTR201809886446171), one-week post-delivery from October 2016 to February 2018. We tracked 124 mother-child pairs (baby age: 32-59 months) between July 2020 and February 2021. During the follow-up study visit, we evaluated Women's dietary diversity (WDD) and Child dietary diversity (CDD) by summing the number of unique food groups consumed in the preceding 24 hours. We categorized CDD into inadequate (CDD <4) and adequate (CDD ≥4), while WDD was categorized as inadequate (WDD <6) and adequate (WDD ≥6).

Depression was assessed using the CESD-10 scale validated in low to middle-income countries categorised into no depression (CES-D 10 total score <5), low to medium depression (CES-D 10 total score ≥5 and <10) and major depressive symptoms (CES-D 10 total score ≥10). Factors associated with CDD and WDD were identified using a modified Poisson regression reporting crude prevalence ratios (PR). We further conducted a case analysis of 80 mothers who reported on their mental health status and compared depression stratified by HIV status.

Results: Among 124 children, 12 (9.7%) had inadequate CDD— 8.5% in HIV-unexposed

uninfected (HUU) and 10.4% in HIV-exposed uninfected (HEU) groups ($p=0.731$). About 23.4% (29 /124) lived in households with inadequate HDD (31.9% in HUU vs. 18.2% in HEU). No significant differences were found based on child HIV exposure. Among the 80 mothers with mental health status data, half (50%) were HIV-positive. A minority (36.3%) experienced depression, with 11 (13.8%) having low to medium depression and 18 (22.5%) exhibiting severe depression. Depression rates were higher among HIV-positive mothers (52.5%) compared to 20% among HIV-negative mothers. Factors associated with inadequate HDD were low maternal literacy (PR 2.0, 95%CI: 1.1-3.8), living in a secondary home (PR 2.0 vs primary home, 95 %CI: 1.0-3.8), and ≥2 adults in the household (PR 0.2 vs 1 adult, 95 %CI: 0.1-0.4).

Conclusion: Women living with HIV have more interactions with health services and, therefore, might have more opportunities to receive nutrition education than the general population. Thus, although they suffer more from mental health challenges, they seem to cope well with dietary diversity for themselves and their children. Furthermore, mental health services in Primary Healthcare (PHC) facilities in South Africa are widely recognized as being insufficient.

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Depression Among Pregnant and Breastfeeding Women Who Disengage From HIV Care in Wakiso District Health Facilities, Uganda

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Introduction: Depression is a common mental health disorder among pregnant and breastfeeding mothers disengaged from HIV care in Uganda. This poses a unique challenge, affecting both the well-being of the mother and the prevention of mother to child transmission. Despite the prevalence of depression among this population, there is limited research on how it influences disengagement from HIV care. Therefore, this research sought to

examine the relationship between depression and disengagement from HIV care among women living with HIV in Uganda.

Methods: This was a prospective study carried out in public health facilities in Wakiso district. The study aimed at locating HIV positive women who disengaged from HIV care for a period of January 2018 to January 2019. A woman was considered disengaged if she was last seen >90 days prior to time of tracing. These were identified from electronic health records system and were traced through telephone calls and home visits to obtain both mother and baby status. A PHQ-9 depression scale was used to assess the depression status. Descriptive statistics and ordinal logistic regression was used to determine factors associated with depression using STATA 15.

Results: Out of 1023 women identified from records, 385 (37.6%) had disengaged from care and 116 (30.1%) were successfully traced and enrolled in the study. The median interquartile range age (IQR) in the sample was 26 (23-29) years, 48 (41.4%) had a viral load above 1000 copies, 72 (62.1%) women were living with partners. 13 (11.2%) of women reported experiencing depression and 61 (52.6%) had not received any HIV care from any facility at the time of tracing. Married/cohabiting women were less likely to be depressed compared to their counterparts not living with partner, (ORR=0.4; CI: 0.19-0.95, p=0.038). Women who had reconnected to care were less likely to experience depression as compared to their counterparts who reconnected to care, however the association was not statistically significant, (ORR=0.6; CI: 0.26-1.56, p=0.327).

Conclusion: Depression among HIV women disengaged from care was noted indicating need for assessment of mental health as a barrier to retention in care. Further efforts to identify and manage depression in pregnant and breastfeeding women living with HIV are needed to eliminate new mother to child transmissions in attempts to achieve the last mile to ending AIDS by 2030.

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Women 45+ Newcomer, HIV, TB Adult, Older Mental Health and Stigma Discrimination

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Background: Women 45 + newcomer HIV+TB older Adult are facing mental health issues because misunderstood the system after been accepted .Because of canadian law all the people who claim refugee need immigration test in three different categories, HIV,TB and Syphilis.The problematic cause mental health of women newcomer 45+ HIV+ TB Stigma is because they receive the news of disease without counselling. women with serious mental illness have higher morbidity and mortality

Method: We create social group in safe places for women living with HIV and have experience of living with TB to come together to learn .The support session provided a safe place where women can speak about mental health issues ,medication, and accessing services and program.It is a place to empower and interact with each other and build each other capacity and knowlegde of HIV, TB stigma its related issues.They gain a sence of family and connection through cookig ,designer, knitting and other subject that women can bond, and learn.Peer support who run these groups received training in supporting and mentoring as home base care provider and facilitator.

Result: This project engaged 60 HIV+ 45 + TB stigma group exercises and skills capacity building activities at workshops. The workshop were hosted in Toronto (n=30),London Ontario (n=20) and Ottawa (n=10) all workshop took place between March and june 2023 ,each lasting 6.5 hours The workshop participants identify themselves as follows 72% as female ,28% as transwomen and they age range was 45-65 87% identify as female, 13% identify as transwomen attend the group session.

Conclusion: We are confident that social group for womens living with HIV,TB help to seek services ,reduce isolation and promote adhrence .Meaningful Involvement is more that inviting women at decision making tables but also

addressing stigma and other personal barriers that women might have.

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Social and Emotional Challenges Faced by Women Living with HIV in Domboshava, Zimbabwe: A Mixed Methods Study

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Women living with HIV in Domboshava experience significant variations in depression and anxiety levels. There is a significant association between relationship patterns, and social status and living with HIV.

This study explores the social and emotional challenges encountered by women living with HIV in Domboshava, Zimbabwe, utilizing a mixed methods approach. The research involved a comprehensive review of available case studies gathered from local clinics. To enhance the data, qualitative research methods, including interviews, were employed with a sample of 60 young girls and women aged between 15 and 32 years. The mean age was 20 years, with a standard deviation of 4.36.

The findings revealed a spectrum of psychological challenges, including stress, anxiety, depression, and suicidal thoughts among the participants. Socially, they experienced altered status perceptions, often being unfairly labeled as prostitutes, and faced significant social stigma and discrimination. The research further highlighted shifts in relationship dynamics. One facet of the quantitative research was on stigma, on a scale of 100, the mean stigma perception score was 87, with a standard deviation of 30 highlighting the diversity in how participants perceived social stigma.

The study, conducted in partnership with Terera, a local organization, aims to inform and guide the support systems needed within the Domboshava community. Initial discussions with local

governance have commenced to plan community campaigns and awareness initiatives. This research underscores the critical need for tailored interventions to address the identified issues. Through the insights gained, we hope to contribute to the improvement of the well-being of women living with HIV in Domboshava.

Presentation Summary: This research tries to identify some of the problems being faced by women and also offer some solutions to which these problems may be addressed.

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Increasing Access and Uptake of Cervical Cancer Screening among Female Sex Workers (FSWs) Living with HIV in Kilifi, Kenya; the “Well Woman” study, A Case Study of ICRH-Kenya

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Background: Cervical cancer (CaCx) is one of the leading causes of cancer-related deaths among women in Sub-Saharan Africa, and is almost entirely preventable if detected early. However, the uptake of CaCx screening in Kenya is currently very low, at only 3.2%. HIV increases the chances of contracting CaCx due to human papillomavirus (HPV)-induced carcinogenesis, making women living with HIV six times more likely to contract CaCx than HIV-negative women. This is particularly concerning for female sex workers (FSWs) living with HIV (WLHIV), who are at an increased risk of developing cervical cancer due to their increased exposure to HPV. \

Methods: The International Centre for Reproductive Health (ICRH)-Kenya implemented a “well woman” strategy to address sexual and reproductive health (SRH) needs for FSWS LHV in Coast region, Kenya. The “well woman strategy” is and strategy implemented in Drop in Centers (DICES) and is targeted primarily for FSWS with history of obstetric and gynecological problems. A

specialized medical officer from public health facilities to provide screening, treatment and referral services, based on his expertise and expertise in gynecological medicine. FSWs are mobilized to the DICEs by a peer educator based on their Gynecological history. FSWs are then provided with an array of SRH services such as CaCx screening, family planning, HIV testing, and sexually transmitted disease syndromic screening and treatment. The FSW LHIV also receive disease prevention information including counselling, condom use, treatment, and referral.

Results: Between October 2022 and June 2023, a total of 1,243 sex workers LHIV were screened for CaCx an 81% uptake (n=1,243/1,543). This was an increase in screening compared to the previous year reporting and implementation period. Previously (June 2021 to October 2022), a total of 1,061 sex workers LHIV were screened for CaCx a 79.7% (n=1,061/1, 3330). These results suggest that the targeted well woman strategy is an effective way to increase CaCx uptake among FSWs LHIV.

Conclusion: Prioritizing cervical cancer screening, prevention and control could bring about significant public health impact and contribute towards reducing the burden of this disease among FSWs LHIV and beyond.

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Identification of Multi-repeat Sequences using Genome Mining Approaches for Developing Highly Sensitive Molecular Diagnostic Assay for the Detection of Curable Sexually Transmitted Infections in HIV Burden Countries

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Background: Curable sexually transmitted infections (STIs) such as *Neisseria gonorrhoeae* (N. gonorrhoeae) *Chlamydia trachomatis* (C. trachomatis) and *Treponema pallidum* (T. pallidum) and *Trichomonas vaginalis* (T. vaginalis) are major causes of poor pregnancy outcome. Women infected with Human Immunodeficiency Virus (HIV), particularly those who have not achieved virologic suppression, STIs increase risks of both HIV transmission to sexual partners and perinatal HIV transmission to children. The World Health Organization (WHO) recommends STI screening as a component of comprehensive care for people with HIV in recognizing the impact of STI management on HIV incidence. Most STIs are asymptomatic in pregnant women and a syndrome-based approach of testing leads to missed diagnosis. Culture is inadequate and time-consuming. The gold standard Nucleic Acid Amplification Tests require advanced infrastructure settings whilst point of care tests are limited to immunoassays with sensitivities and specificities insufficient to accurately diagnose asymptomatic cases.

Objectives: Here, we have identified new diagnostic target biomarker regions for N. gonorrhoeae, C. trachomatis T. pallidum and T. vaginalis using an algorithm for genome mining of identical multi repeat sequences (IMRS). These were then developed as DNA amplification primers

to design better diagnostic assays. To test the primer pair, genomic DNA was 10-fold serially diluted (100pg/μL to 1×10⁻³pg/μL) and used as DNA template for PCR reactions. The gold standard PCR using 16S rRNA for *N. gonorrhoeae*, *C. trachomatis* T. pallidum primers and 18S rRNA for *T. vaginalis* were also run as a comparative test, and both assay products resolved on 1% agarose gel.

Results: The *N. gonorrhoeae* and *C. trachomatis* IMRS-PCR assay had an analytical sensitivity of 6 fg/μL and 9.5 fg/μL, respectively representing better sensitivity compared to the 16S rRNA PCR assay with analytical sensitivity of 4.3096 pg/μL. The assays were also validated with clinical samples. Combining the iso-thermal IMRS with a low-cost Lateral Flow Assay, we were able to detect *N. gonorrhoeae* and *C. trachomatis* amplicons at a starting concentration of 100 pg/μL and 10 pg/μL, respectively. Lower limit of detection analysis confirmed that the *T. pallidum* and *T. vaginalis* -IMRS primers both offered higher test sensitivity of 0.03 fg/μL starting PCR template concentration. Using the *T. pallidum* and *T. vaginalis* -IMRS primers, we were able to observe Isothermal amplification of genomic DNA at concentration of 0.01 pg/μL and 100 pg/μL, respectively.

Conclusions, Recommendations and implications: Our data demonstrate the successful development of lateral flow and isothermal assays for detecting curable sexually transmitted infections with potential use in field settings mostly in HIV burden countries.

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Distribution of Vaccine-preventable HR-HPV Genotypes and Association with Cervical Cytology Patterns among Women Living with HIV at Kenya's Referral Hospital

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Background: There are sustained cervical cancer incidental and mortality rates among women living with HIV (WLHIV) in Kenya irrespective of available HPV vaccines. Data on the distribution of vaccine-preventable HR-HPV genotypes in Kenya is scarce. We determined the distribution of vaccine-preventable HR-HPV genotypes and their association with cervical cytology among WLHIV in the Antiretroviral (ART) era at the Kenyatta National Hospital (KNH).

Methodology: WLHIV aged ≥18 years enrolled in HIV care at KNH HIV clinics were eligible and approached for participation during their routine HIV clinic visits between September 2021 and February 2022. Participants had a face-to-face interview with a research assistant. A nurse collected a cervical sample with a cytobrush for HPV genotyping.

Results: Overall, 647 WLHIV participated in the study. The mean age of the participants was 42.8 years (SD 8.7) and the majority (63.8%) were aged 35- 49 years. Almost half of the respondents (43.4%) reported a history of STD treatment in their adult lifetime and 68.5 % of the participants had a sexual partner/s currently and/ or in the last six months. The overall HR-HPV prevalence was 34.6% (n=224), whereas the prevalence of vaccine-preventable HR-HPV was 29.4% (n=190). The highest distributed vaccine-preventable HR-HPV was type 52 (38.4%), followed by (in descending order) types 16 (28.6%), 18 (23.7%), 58 (12.9%), 45 (10.3), 31 (8.5%), and 33 (6.7%). For the WLHIV having vaccine-preventable HR-HPV genotypes, 72.1% had normal cytology whereas 13.7% had ASCUS, 3.2% had LSIL, 4.7% had HSIL, and 3.2% had ICC. Consequently, 3.2% of the participants had cervicitis. WLHIV with multiple vaccine-preventable infections were likely to have abnormal cytology as compared to those with single HR-HPV infections (39.6% vs 10.2%, AOR=6.3; 95% CI 3.0-12.9, P<0.001).

Conclusion and recommendations: There is an increased distribution of vaccine-preventable HR-HPV genotypes and associated cytological

abnormalities among WLHIV on care. There is an urgent need to consider the expanded coverage provided by the nonavalent HPV vaccine.

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A Study on the Experience of Women Living With HIV in Romania: The Impact and Dynamics of Stigma on Social and Medical Integration

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Background: After more than 30 years since the discovery of the first HIV cases in Romania, quality of life became essential for both people living with HIV and professionals. In this context, the study carried out by HIV Outcomes Romania, The National Institute for Infectious Diseases "Prof. Dr. Matei Bals", Bucharest eight HIV Regional Centers in the country aims to assess the experiences and quality of life of women living with HIV. Social and medical integration are the main elements of analysis, as well the way that women perceive them.

Material and methods: The study lot consisted in 1050 persons living with HIV in Romania under the surveillance of eight Regional HIV Centers. Of them, 361 were women, 29,5% being part of the Romanian cohort. The mean age was 38 years. Quantitative analysis was combined with qualitative insights, enabling a holistic understanding of the HIV phenomenon in our region. A rigorous approach combined structured

surveys and in-depth interviews to capture complex perspectives. Ethical considerations were a core concern resulting in thorough analysis of data, for patterns and nuances.

Results: The results highlight both the perceptions of women living with HIV and the challenges related to social and professional integration. Thus, in terms of social inclusion, percentages vary from 38,9% low level of acceptance within the society to 29,7% medium acceptance, this indicating discrepancies within the general mentalities. When it comes to mass media information, 70,6%-74,8% of respondents consider them relevant. Inclusion in the education system and peer groups is considered difficult, 78,3% of respondents correlating this item with schools and 45,3% with the work environment. However, there is a duality in terms of perception, 64,2% indicating high vulnerability to exclusion while 61,4% trust that they will be socially included. In what concerns medical needs, approximately half of respondents (50,6%) outlined the necessity to access other medical services and a significant majority (56,6%) felt that the relationship between healthcare professional-people living with HIV needs to be improved. As for social support, most respondents (77,4%) opt for confidentiality while 41% foresee a low probability of stigma.

Conclusions: The study accentuates the fact that women are a gamechanger in terms of perception and management of challenges of all people living with HIV in Romania.

First, the varied perceptions on acceptance and social integration emphasize the need to raise awareness and to educate. These two areas can place women at the core of awareness campaigns by working with the communities to promote acceptance and diversity.

Second, the medical and social needs reflect the momentum for more tailored services, in a multidisciplinary context, oriented towards a more empathetic communication between the care team and the persons they provide services to. Given this, women may have a crucial role in how stigma is approached, in the education process (professionals as well as members of families and communities) by promoting an improved access to medical services and social integration of people living with HIV.

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Sphingosine-1-Phosphate Receptor and Kinase Expression in the Reproductive Tract of Women Living with HIV and Experiencing Preterm Birth in Zambia

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Background: Women living with HIV face an increased burden of spontaneous preterm birth (sPTB) compared to women without HIV; however, the underlying immunological mechanisms of sPTB and its association with HIV infection are not well understood. Although limited previous literature implicates sphingosine-1-phosphate (S1P), a lysosphingolipid mediator of various cellular processes, in reproductive conditions like pelvic organ prolapse and polycystic ovarian syndrome, the association of S1P signaling with HIV and sPTB is unknown.

Objectives: We sought to establish whether S1P receptors or sphingosine kinases are expressed in the female reproductive tract and whether expression is associated with HIV status or spontaneous preterm birth.

Methods: We examined the expression of sphingosine-1-phosphate receptors 1 and 3 (S1PR1/S1PR3) and sphingosine kinases 1 and 2 (SPHK1/SPHK2) in stored frozen vaginal swab specimens collected between 14-26 weeks of gestational age. Sampling from a parent case-cohort study, we evaluated the expression of S1PR1, S1PR3, SPHK1, and SPHK2 by real-time quantitative reverse transcription (RT) PCR in four groups (n=42 each): HIV- women with full-term birth (37 weeks of gestation or greater; FTB), HIV-sPTB, HIV+FTB, and HIV+sPTB.

Results: We report that S1P receptors and sphingosine kinases are expressed in the female

reproductive tract. SPHK1 and SPHK2 mRNA expression were comparable among women independent of HIV status and birth outcome. In contrast, S1PR1 mRNA expression was increased (approx. 2-fold, p=0.064; Mann-Whitney) in women with HIV, and women with HIV and sPTB had higher (p=0.0043) mRNA levels than women without HIV and sPTB. Similarly, S1PR3 mRNA expression was increased in women with HIV (approx. 3-fold; p=0.0155). Women without HIV and sPTB also had higher (p=0.0119) S1PR3 mRNA expression than HIV-FTB women.

Conclusions: Our results suggest that perturbations in S1PR1 and S1PR3 expression may be associated with inflammation related to HIV infection and spontaneous preterm birth and warrant further studies of S1P signaling in pregnancy, especially among women living with HIV.

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Mobilizing Men to Support Women's Maternal Health Delivery as Advocates, Role Models and Champions in Lupane and Binga Districts, Zimbabwe

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Introduction: According to the World Health Organisation, ending preventable maternal death is at the top of the global agenda and addressing these requires comprehensive strategies that engage communities including men. As put forward by the Former UN Secretary General (Kofi Annan) and supported by , World Health Organisation men through their roles in the home, the community and at the national level, have the potential to make a big contribution in addressing maternal health. Pangaea Zimbabwe under the Wild4Life health program is mobilizing men to serve as advocates, role models, and champions for women's health, aiming to improve maternal

health outcomes in Lupane and Binga districts, Zimbabwe.

Methods: The program working with community leaders select, train, and encourage men to become advocates for raising awareness about the importance of maternal health for women within their communities. Additionally, identified men serve as role models for promoting women maternal health services by actively participating in and supporting discussions and activities related to women's health and well-being. The initiative also identifies and supports men willing to champion women's health causes, fostering a network of motivated individuals committed to promoting positive maternal health outcomes.

Results: Preliminary results measured through the program key performance indicators show that the proportion of women registering for ANC before 16 weeks increased from 34% in 2022 to 42% in 2023, home deliveries decreased 16% at baseline to 11% in 2023 and number of men accompanying their expecting partners for ANC registration and tested increased from 11% to 34% for 2023. There is evidence of a positive shift in men's and overall community perceptions and behaviours regarding maternal health. Men engaged in the initiative have contributed to increased awareness, reduced stigma, and improved support systems for pregnant women. The presence of male advocates, role models, and champions has motivated other men to actively participate in maternal health discussions and support their partners throughout the reproductive journey.

Conclusion: Mobilizing men as advocates, role models, and champions emerges as a promising approach to enhance maternal health outcomes in Lupane and Binga districts. This abstract highlight the ongoing efforts to create a supportive environment where men actively contribute to the improvement of women's health and overall maternal well-being.

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A Holistic Response to the Effect Of Conflict On Adolescent Girls And Young Women Living With And Affected By HIV In The North And South West Regions Of Cameroon

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"A layer of conflict on the HIV vulnerability on women and you have the reality of adolescent Girls and young women living in the North and South West Regions of Cameroon" The ongoing armed conflict in the two English speaking regions of Cameroon has had appalling effects on the health and wellbeing of inhabitants of these regions.

This is particularly worse for young women who make up to 60% (International Crisis Group Report 2023) of internally displaced persons living in cramped IDP camps deprived of health care, education and a source of livelihood. Coming from a patriarchal background of deeply rooted gender roles, these AGYW are left with the burden of fending for their siblings and parents living with HIV.

They engage in transactional sex for a roof above their heads. Worse of all they are raped and sexually abused by men and boy in IDP host communities. The heavy displacements have had a grievous impact on AGYW under the following points: Challenges with access to and availability of services for AGYW living with and affected by HIV; Increased risks of HIV amongst adolescent girls and young women and the economic effect of the crisis on the general quality of life and mental health of AGYW.

Our interventions entail a qualitative study which seeks to establish a direct relationship between conflict and its outcomes on HIV vulnerability of adolescent girls and young women, while identifying their needs and gaps in response. This paper details our actions in providing much need SRHR education for young women living in IDP

camps far away from health centers and out of school. It further highlights our interventions in training AGYW led and serving organization on response strategies to meet the HIV and SRHR needs of AGYW while providing skill empowerment and economic support for internally displaced women and girls in camps. This paper also takes the reader through a journey of transformation and the revival of hope for AGYW who have surmounted their pain and trauma and living worthwhile lives as a result of our actions through empowerment and mentorship.

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Secondary Caregivers: A Strong Pillar in Attainment of HIV Viral Load Suppression Among Children and Adolescents Living with HIV, The Case of Kisoro Hospital

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Background: The Elizabeth Glaser Pediatric AIDS Foundation (EGPAF) supports the Kisoro District Hospital in Uganda. In December 2022, 98% of children and adolescents living with HIV (CALHIV) in care at the hospital were retained in care at 6 months; however, only 54% were virally suppressed. The standard of care for treatment support is assigning a health facility-based caregiver mentor families of CALHIV. EGPAF Uganda initiated a quality improvement activity aiming to improve HIV viral load suppression (<1000 copies/ml) among CALHIV.

Methods : From February to November 2023, EGPAF supported the implementation of a quality improvement activity. Hospital staff conducted chart reviews for clients in the HIV clinic. CALHIV were line listed if their repeat viral load result after intensive adherence counselling showed a non-

suppressed status and if they had caregiver-associated barriers (multiple caregivers, negligent caregivers, absent caregivers). Families of line-listed CALHIV were encouraged by healthcare workers to identify a secondary caregiver who could provide additional adherence support to CALHIV. Once identified, the secondary caregivers participated in a training on treatment literacy to increase their skills and understanding on how to support children and family members to take their HIV treatment consistently and effectively. The secondary caregiver support role is primarily to provide complimentary support to the primary caregiver in supporting CALHIV. Secondary caregivers' roles included: directly observed therapy, physically reminding primary caregivers about clinic appointments, providing ongoing treatment literacy support, identifying emerging adherence barriers for CALHIV, and providing feedback on individual CALHIV needs to healthcare workers. Secondary caregivers received ongoing guidance from healthcare workers.

Results: In February 2023, 29% of CALHIV at Kisoro hospital's HIV clinic were identified as virally unsuppressed (33/112). Following implementation of the quality improvement activity, by November 2023, 73% (24/33) of previously unsuppressed CALHIV achieved viral load suppression; 8% remained unsuppressed. From February to November 2023, viral load suppression among CALHIV at the hospital increased from 54% to 88% overall. This included CALHIV not in the activity cohort. Retention remained consistent at 98%.

Conclusions: CALHIV who experience unsuppressed viral load linked to adherence challenges benefit from receiving additional support from an empowered secondary caregiver. Secondary caregivers identified by families of CALHIV may be a resource to help break through adherence barriers.

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Comparing Fertility Clinic Care For Individuals and Couples Living With and Affected by HIV and in Canada in 2007, 2014 and 2023

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Background: Access to fertility care, particularly medically assisted conception (MAC), presents an ongoing reproductive justice concern for individuals with HIV. Canadian research (2007/2014) revealed geographic disparities in access to fertility care for people with HIV. While the U=U principle has negated the recommendation for MAC to reduce horizontal transmission, it may still be pursued for clinical or personal reasons. Accordingly, this longitudinal study investigates current fertility care access for people with HIV in Canada, with a focus on MAC.

Methods: Ethical approval was obtained from Women's College Hospital. Surveys were distributed to medical and laboratory directors from 58 fertility clinics across nine provinces, adapting a 2014 survey and disseminating it through REDcap. Proportions were used to evaluate clinic policies, MAC access, and awareness/implementation of Canadian guidelines. Responses were initiated by 24/89 (27.0%) participants, representing 19/58 (32.8%) clinics in 7 provinces. Complete responses were received from 16/24 (66.7%) participants.

Results: Of the 19 respondents, 13 (68.42%) reported that their clinic will see individuals with HIV in consultation, with an additional 2 (10.53%) limiting this to people with an undetectable viral load. The 16 respondents who completed the survey answered questions about access to MAC. 12/16 (75%) offer intrauterine insemination (IUI) if the viral load is undetectable, while 10/16 (62.5%) offer in vitro fertilization (IVF) under the same condition. 12.5% (2/16) offer IVF regardless of viral load, 18.75% (3/16) do not offer IVF in the context of HIV, while 1 respondent was unsure of the clinic policy. Three-quarters of the respondents were

aware of Canadian guidelines related to HIV. Among those adopting guideline recommendations, 75% found them helpful.

Conclusions: Access to fertility care and MAC for people with HIV has not substantially improved since 2014. While the study's low response limits the generalizability, findings suggest that advocacy efforts are warranted to address reproductive rights for people with HIV, emphasizing U=U.

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