

Exploring menopausal care integration for older women living with HIV in southwestern Uganda

1. Background: In 2022, Africa had over 11 million women living with HIV(WLH).¹ Of these, 23% (2.53 million) were aged 50 or older² and experiencing menopause, a natural menstrual cessation, typically between 45 and 55 years.³⁻⁶ Most women, 80%, experience disruptive menopausal symptoms, such as hot flashes⁷⁻⁹, but about 15% receive crucial treatment like hormonal- or psycho-therapy.¹⁰ Evidence suggests that WLH experience menopause earlier^{11,12} with more frequent symptoms than peers without HIV.¹²⁻¹⁴ Stigma, limited awareness, and communication gaps between clinicians and WLH hinder menopausal care access,¹⁵⁻¹⁹ yet severe symptoms can lower retention in HIV care and medication adherence.²⁰⁻²⁴

African descent is linked to longer menopausal transition (median 10.1 vs. 4.5 years).^{12,25,26} However, in Africa, including Uganda, menopausal care is understudied and suboptimal despite a growing aging WLH population and the potential for severe symptoms to disrupt HIV care.^{6,21,27} Thus, there is a critical need to train local researchers to bridge this gap. As HIV programs integrate the reproductive health care of younger women, such as contraceptives and prenatal care²⁸, the unmet needs of older women, including menopausal care, persist.^{6,10,16} Addressing these critical research and practice gaps can significantly improve the lives of older WLH in Africa by enhancing HIV treatment outcomes, integrating culturally appropriate menopausal care, and informing future research across the lifespan of WLH.

2. Aims and approach: I propose an innovative mixed-methods study to explore menopausal care integration for older WLH aged 45-60 years attending high-volume HIV clinics at Masaka and Mbarara regional referral hospitals in Uganda. I will describe menopause symptoms and care and use the comprehensive "PRECEDE" framework²⁹ to map predisposing, reinforcing, and enabling factors influencing menopausal care integration into HIV services (excluding WLH on hormonal therapy or had oophorectomy or currently pregnant). I will then use a human-centered design (HCD) approach³⁰ to develop and refine an integrated menopausal care model that is contextually fit while meeting the WLH's needs and preferences.

Aim 1. To determine the proportion of older WLH with severe menopausal symptoms and those treated. Using an interviewer-administered questionnaire and medical records³¹, I will collect cross-sectional data on clinical, sociodemographic, and treatment outcomes on a clustered random sample of WLH(N=428). I will use self-reported menstrual patterns to determine and stage menopausal status per the standard "stages of reproductive aging workshop (STRAW+10)" criteria^{7,32} and the menopausal rating scale³³ to assess and categorize menopausal symptoms. Self-reported symptom treatment will be considered. I will first calculate the percentages of WLH with severe menopausal symptoms and those treated and then use logistic regression to identify sociodemographic and clinical factors associated with severe symptoms.

Aim 2. To explore WLH and clinicians' perspectives on menopausal care integration into HIV services. Using purposive sampling, I will conduct i) four focus group discussions (2 per site) with mixed pre-, peri- and post-menopausal WLH^{7,32}, ii) in-depth interviews with HIV clinicians (n=6) balanced by cadre, and iii) key informant interviews with gynecologists (n=2) and clinic managers (n=2). Semi-structured interview guides will follow "PRECEDE" model constructs. I will use Atlas ti software to code and analyze data using thematic analysis.

Aim 3: To develop a culturally relevant menopausal care integration model using the HCD approach. Building on the results of Aim 2, I will conduct four multiday HCD workshops to brainstorm and develop innovative solutions for the integrated model. Each site group will comprise purposively sampled gynecologists (n=2), WLH(n=10), and HIV clinicians(n=8) balanced by cadre. We will create prototypes outlining potential care pathways and iteratively refine prototypes using feedback from WLH and providers.

3. Study team: Ugandan mentor Prof Moses Kamya is a respected HIV researcher with 25+ years of experience, 400+ publications, and 50+ supervised graduates. He heads the host institution whose resources and partnerships will support this project. US-based mentor, Prof Alison El Ayadi, is an expert in HIV and women's health. The trainee, Dr Owaraganise, will leverage 10+ years of HIV research expertise and gynecology training to implement this study. Mentorship plan: I will meet mentors at least biweekly in person and virtually to set goals, address challenges, and track progress from study design and implementation to results dissemination. Attend short mixed methods course, University of Antwerp. Details are in bio-sketches.

4. Future directions: Ultimately, findings will inform a future K43 grant proposal to test menopausal care integration strategies within HIV differentiated care for the expanding population of older WLH in Africa.

5. Significance: This study will bridge critical data and practice gaps on menopausal care for older WLH in Uganda and strengthen local research capacity to improve their health outcomes.

6. Work plan: Year 1: Engage stakeholders, prepare study sites, secure protocol approvals, implement Aims 1 and 2, attend a six-week Fall 2025 mixed methods course, and submit a progress report and year two requisition. Year 2: Implement Aim 3, analyze data and disseminate results, develop a K43 proposal, submit manuscripts, and final report.

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