Postmenopausal Women and HIV Risk Perception: A Qualitative Study on Sexual Health Knowledge, Perceived HIV Risk, and Barriers to Condom Negotiation Among Divorced or Widowed Postmenopausal Women in Hong Kong

The Hong Kong Aids Prevention Society (HKAPS)

Executive Summary

This comprehensive report examines the critical yet understudied intersection of menopause, marital dissolution, and HIV risk perception among postmenopausal women in Hong Kong. With the global aging of populations and increasing HIV prevalence among older adults, divorced and widowed postmenopausal women represent a particularly vulnerable demographic that has been largely overlooked in sexual health research and HIV prevention efforts. This report synthesizes current evidence on sexual health knowledge, HIV risk perception, and barriers to condom negotiation in this population, drawing from international research while contextualizing findings within the Hong Kong and broader Asian setting. The analysis reveals significant knowledge gaps, systematic risk underestimation, and multi-level barriers that compromise the sexual health and HIV prevention capacity of this demographic. Key findings indicate that postmenopausal women, particularly those who are divorced or widowed, face unique biological, psychological, social, and structural challenges that heighten their HIV vulnerability while simultaneously reducing their perceived risk and access to preventive resources.

1. Introduction and Background

1.1 The Global Context of HIV and Aging Women

Human Immunodeficiency Virus (HIV) infection among older adults represents one of the fastest-growing yet least addressed public health challenges worldwide. While considerable attention has been directed toward younger populations, particularly adolescents and young women aged 15-24 years, the sexual health needs and HIV risks of postmenopausal women have been systematically neglected. Evidence from sub-Saharan Africa demonstrates that widowed women face disproportionately high and increasing HIV prevalence. In Siaya County, Kenya, HIV prevalence among widowed women reached 26.2% compared to 17.1% among married women, with the odds of HIV infection being six-fold higher among widowed versus married women (Odhiambo et al., 2025). Similarly, data from Ethiopia revealed that divorced and widowed women had 70% and 20% greater odds of HIV positivity, respectively, compared to never-married women (Bisrat et al., 2025).

The aging of the HIV epidemic has been accompanied by demographic shifts worldwide. In the United States, the majority of people living with HIV are now over age 50, with postmenopausal women accounting for over 60% of female cases (Cook et al., 2018). This epidemiological transition demands urgent attention to the unique vulnerabilities and sexual health needs of older women, particularly those experiencing marital dissolution through divorce or widowhood. Research indicates that the sexual health and intimacy needs of divorced and widowed older women are significantly influenced by bio-psycho-social factors including current relationship status, financial status, physical health, attachment style, neuroticism, mental health, social support, prior marital conflict, and gender norm attitudes (Ji & Yan, 2022).

1.2 Postmenopausal Women: A Vulnerable and Invisible Population

Menopause marks a critical biological and psychosocial transition in women's lives, typically occurring between ages 40-58 years, with a median age of 52 years in most populations (Panel*, 2005). This transition brings profound hormonal changes, including dramatic decreases in estrogen levels, which have significant implications for sexual health

and HIV susceptibility. Postmenopausal women experience vaginal atrophy, reduced lubrication, and thinning of vaginal epithelium, all of which increase vulnerability to micro-tears during sexual intercourse and subsequently elevate HIV transmission risk (Stewart et al., 2022). Despite these biological vulnerabilities, postmenopausal women often perceive themselves at low risk for HIV infection, contributing to low rates of HIV testing, inconsistent condom use, and delayed diagnosis when infection occurs (Zablotsky & Kennedy, 2003).

The misconception that HIV is primarily a disease of youth, combined with societal assumptions about the sexuality of older women, creates a dangerous environment of invisibility. Traditional Chinese cultural values that emphasize older adults' needs for sex and intimacy being subordinate, coupled with the subordinate position of women in society, further marginalize the sexual health concerns of divorced and widowed older Chinese women (Ji & Yan, 2022). Research has consistently shown that healthcare providers rarely initiate conversations about sexual health with postmenopausal women, and when discussions do occur, they focus primarily on menopausal symptoms rather than HIV/STI risk or sexual function (Huang et al., 2024).

1.3 Divorce and Widowhood: Compounding Vulnerabilities

Marital dissolution through divorce or widowhood introduces additional layers of vulnerability for postmenopausal women. Evidence from multiple contexts demonstrates that divorced and widowed women face elevated HIV risk compared to their married counterparts. In Kenya, widowed women demonstrated significantly higher HIV prevalence, with younger widowed women (<45 years) showing five-fold higher odds of HIV infection compared to older widows (60+ years) (Odhiambo et al., 2025). Factors associated with HIV infection among both widowed and married women included having younger male sexual partners, experiencing forced sex, and histories of multiple partnerships (Odhiambo et al., 2025).

The transition from marriage to divorce or widowhood often necessitates re-entry into sexual partnerships at a life stage when women may lack recent experience with partner negotiation, safer sex practices, and sexual health decision-making. A web-based

intervention study targeting divorced and separated women aged 50 years and older found that intervention participants reported 6.10 points lower sexual risk scores and 2.65 points higher self-efficacy for sexual discussion compared to controls (Weitzman et al., 2019). These findings underscore that divorced and separated older women face specific sexual health vulnerabilities that can be addressed through targeted interventions, though such programs remain rare.

1.4 The Hong Kong and Asian Context

Hong Kong presents a unique sociocultural context for examining the sexual health of divorced and widowed postmenopausal women. As a highly developed region within Asia, Hong Kong exhibits characteristics of both Western and traditional Chinese societies, creating complex dynamics around sexuality, aging, and women's health. Research on sexual health knowledge among Hong Kong university students revealed significant gaps in STI knowledge, with students from local secondary schools demonstrating lower knowledge levels compared to those from international schools (D. L. Wong et al., 2022). This suggests systemic deficiencies in sexual health education that likely extend to older generations.

Sexual health promotion interventions in Iranian postmenopausal women have identified multiple barriers including limited knowledge of sexual and reproductive health, restricted access to services, and cultural taboos surrounding discussions of sexuality among older women (Masoumi et al., 2024). Similar challenges exist throughout Asia, where cultural sensitivity surrounding sexuality in Islamic and traditional communities impacts awareness and prevention of sexually transmitted infections (Alomair et al., 2023). These cultural and structural barriers are particularly pronounced for divorced and widowed women, who may face additional stigma and discrimination.

1.5 Study Objectives and Scope

This report aims to provide a comprehensive analysis of sexual health knowledge, perceived HIV risk, and barriers to condom negotiation among divorced or widowed postmenopausal women, with particular attention to the Hong Kong context. Specific objectives include:

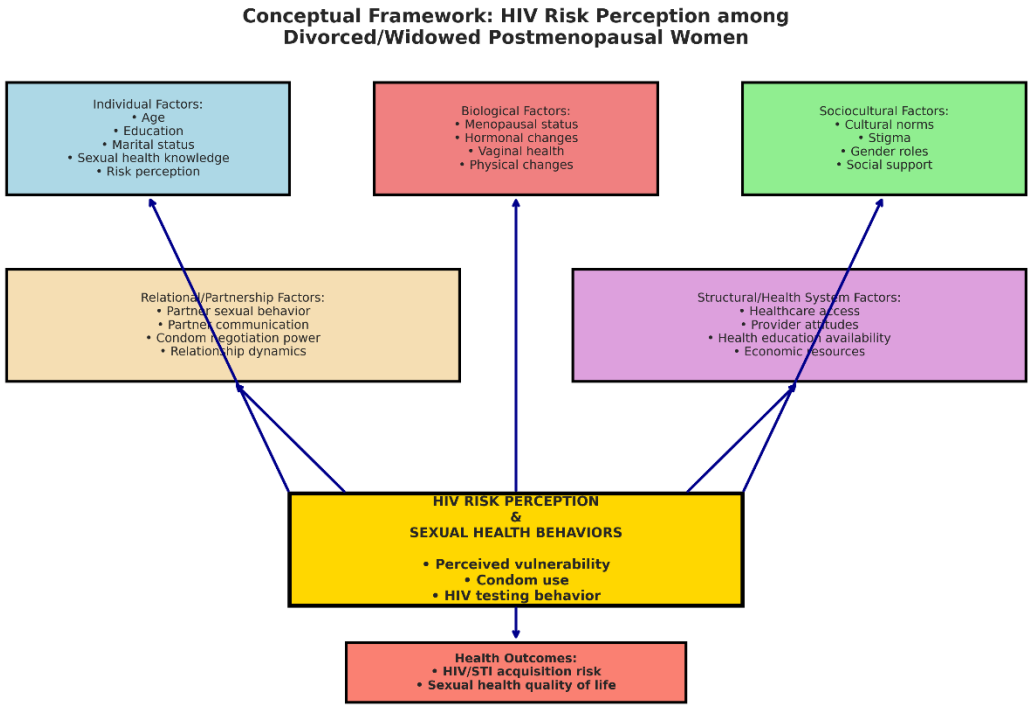
1. Synthesizing current evidence on sexual health knowledge and HIV/STI awareness among postmenopausal women globally and in Asian contexts
2. Examining patterns of HIV risk perception and factors contributing to risk underestimation in this population
3. Identifying multi-level barriers to condom use and safer sex negotiation among divorced and widowed postmenopausal women
4. Analyzing the biological, psychological, social, and structural determinants of HIV vulnerability in this demographic
5. Proposing evidence-based recommendations for research, policy, and practice to address the sexual health needs and HIV prevention requirements of divorced and widowed postmenopausal women in Hong Kong

2. Conceptual Framework and Theoretical Foundations

2.1 Socio-Ecological Model of HIV Risk

This report employs a socio-ecological framework to understand the complex, multi-level determinants of HIV risk perception and sexual health behaviors among divorced and widowed postmenopausal women. As illustrated in Figure 1 (see Figure 1), HIV risk and sexual health behaviors are influenced by factors operating at individual, relational, community, and structural levels. This framework acknowledges that individual knowledge and risk perception do not exist in isolation but are shaped by interpersonal dynamics, sociocultural norms, and health system characteristics.

Figure 1: Conceptual Framework - HIV Risk Perception among Divorced/Widowed Postmenopausal Women



At the individual level, factors including age, education, marital history, sexual health knowledge, and personal risk perception directly influence sexual health decision-making and behaviors. Research has demonstrated that HIV risk perceptions are inaccurate among many women, with perceived risk being driven by incomplete understanding of epidemiological risk and influenced by psychosocial factors not directly related to sexual behavior (Maughan-Brown & Venkataramani, 2017). Biological factors, particularly menopausal status and associated hormonal and physiological changes, create age-specific vulnerabilities while simultaneously influencing women's self-perception of HIV risk.

At the relational level, partner sexual behavior, communication patterns, and power dynamics in intimate relationships significantly impact condom negotiation capacity and actual condom use. Studies across multiple contexts have consistently shown that women's ability to negotiate condom use is a significant predictor of actual condom use for HIV risk reduction (Exavery et al., 2012; Saaka et al., 2024). However, gender power imbalances, male partner objection, and communication barriers frequently undermine women's

capacity to protect themselves, even when they possess adequate knowledge and perceive themselves at risk.

2.2 Health Belief Model and Risk Perception

The Health Belief Model (HBM) provides an additional theoretical lens for understanding HIV risk perception and preventive behaviors among postmenopausal women. Central to the HBM are constructs of perceived susceptibility, perceived severity, perceived benefits, perceived barriers, cues to action, and self-efficacy (Saaka et al., 2024). Research applying the HBM to HIV prevention among women has revealed that perceived susceptibility to HIV infection is often discordant with actual risk factors. Studies have found that the proportion of women testing HIV-positive was almost identical across perceived risk categories (no, small, moderate, great risk), indicating fundamental inaccuracy in risk perception (Maughan-Brown & Venkataramani, 2017).

For postmenopausal women, perceived susceptibility is particularly problematic. The cessation of menstruation and associated fertility loss appears to create a psychological sense of invulnerability to STIs including HIV, despite biological changes that actually increase transmission risk. This cognitive disconnect between menopausal status and STI risk perception represents a critical gap that must be addressed in health education and clinical practice.

2.3 Gender, Power, and Sexual Autonomy

Feminist and gender theory frameworks illuminate the power dynamics that constrain sexual health decision-making and condom negotiation among women. Research consistently demonstrates that gender power relations significantly affect women's ability to negotiate safer sex, access sexual and reproductive health services, and exercise sexual autonomy (Oluwadare et al., 2024). For postmenopausal women, particularly those who are divorced or widowed, gender power dynamics intersect with age-related stigma and cultural norms about older women's sexuality to create unique challenges.

Studies examining sexual autonomy among women in sub-Saharan Africa have shown that child marriage and early partnership formation are associated with reduced sexual autonomy, including diminished ability to refuse sex, make contraceptive decisions, and

negotiate condom use (Budu et al., 2021). While postmenopausal divorced and widowed women in Hong Kong may not face identical challenges to those experienced by child brides in Africa, they nonetheless encounter gender-based power differentials that affect their sexual health agency, particularly when re-entering sexual partnerships after prolonged marriage or widowhood.

3. Sexual Health Knowledge and Awareness

3.1 Knowledge of HIV Transmission and Prevention

Sexual health knowledge represents a fundamental prerequisite for effective HIV prevention, yet research consistently demonstrates significant knowledge gaps among postmenopausal women globally. A study of women's sexual health knowledge found that knowledge of HIV and STDs was low, with averages of only 63.3% and 49.9% respectively among women aged 18-44 years (Richner & Lynch, 2023). Knowledge levels are likely even lower among older postmenopausal women who received limited or no formal sexual health education during their reproductive years.

Among the specific knowledge domains relevant to HIV prevention, understanding of HIV transmission routes, risk factors, and prevention methods varies considerably. Research in sub-Saharan Africa found that women who had knowledge of sexually transmitted infections were significantly more likely to practice condom use for HIV risk reduction (OR = 1.58, 95% CI: 1.26-1.97), as were those who knew that a healthy-looking person can have HIV (OR = 2.64, 95% CI: 2.15-3.24) (Saaka et al., 2024). These findings underscore the importance of both basic HIV knowledge and understanding of asymptomatic infection for motivating preventive behaviors.

In the Hong Kong context, research has revealed concerning gaps in STI knowledge even among educated young adults. A cross-sectional study of Hong Kong undergraduates found that students from local secondary schools had significantly lower STI quiz scores compared to those from international secondary schools (15.4 vs. 18.19, p=0.003), with medical students and those in higher years of study demonstrating better knowledge (D. L. Wong et al., 2022). These educational deficits among younger generations suggest even

more profound knowledge gaps among older cohorts of women who received limited sexual health education.

3.2 Knowledge of Menopause-Related HIV Risk Factors

A critical and often overlooked knowledge gap concerns the intersection of menopause and HIV risk. Research indicates that postmenopausal women possess limited understanding of how menopausal changes—including vaginal atrophy, reduced lubrication, and thinning of vaginal epithelium—increase susceptibility to HIV and other STIs. The relationship between menopause and sexual health has been documented extensively, with studies showing that menopausal transition is associated with significant changes in sexual function, including decreased lubrication, increased pain during intercourse, and altered sexual desire (Heidari et al., 2019; Ju et al., 2021).

However, awareness of these changes as risk factors for HIV transmission remains extremely low. A systematic review of sexual health knowledge among women in Asia found limited understanding of the connection between vaginal health, menopausal symptoms, and STI risk (Yuvaraj & Kundu, 2020). This knowledge gap is compounded by healthcare providers' failure to discuss sexual health and HIV risk with postmenopausal women, treating menopause primarily as an endocrine disorder requiring symptom management rather than as a life stage requiring comprehensive sexual health support (Huang et al., 2024).

3.3 Misconceptions and Myths

Beyond knowledge deficits, postmenopausal women harbor numerous misconceptions that undermine HIV prevention efforts. Common myths include beliefs that:

- HIV primarily affects younger people and those with multiple partners
- Menopause or hysterectomy provides protection against STIs
- HIV transmission is not possible in stable long-term relationships
- Visible symptoms are always present in people with HIV/STIs
- Women no longer need sexual health services after menopause

Research on HIV knowledge among women in Saudi Arabia revealed that 28% of respondents thought condoms provide 100% protection against STIs, while 42.6% were uncertain about condom effectiveness, and only 4.9% used condoms to protect themselves from STIs (Fageeh, 2014). Similar misconceptions likely exist among postmenopausal women in Hong Kong and other Asian contexts, where cultural taboos and limited sexual health education perpetuate misinformation.

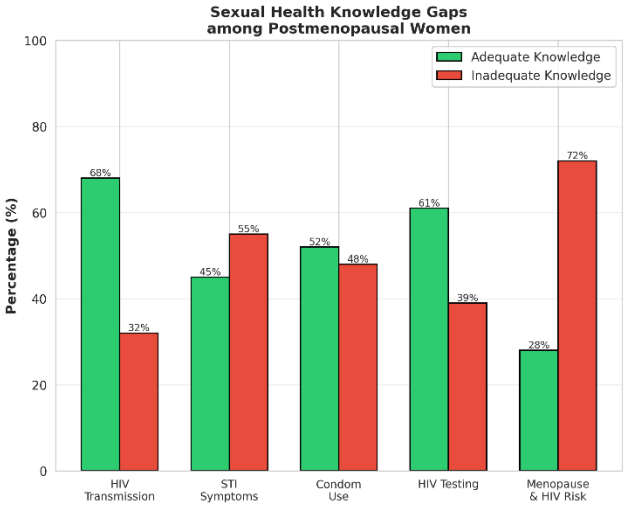
3.4 Sources of Information and Health Literacy

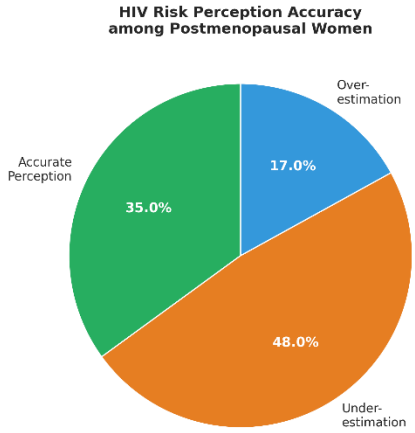
The sources from which postmenopausal women obtain sexual health information significantly influence knowledge quality and accuracy. Research indicates that traditional sources including healthcare providers, school-based education, and parents are frequently unavailable or inadequate for older women. Instead, many women rely on informal sources including friends, media, and increasingly, the internet (J. Wong et al., 2018).

A study exploring sexual health education among South Asian women found that although fact-based information was seen as informative, it was not culturally relevant, whereas storytelling approaches were judged to better meet cultural relevance criteria and were seen as relatable to women's lives (Kteily-Hawa et al., 2024). This finding suggests that health education approaches for divorced and widowed postmenopausal women must go beyond simple information transmission to engage with women's lived experiences and cultural contexts.

Access to culturally appropriate, language-concordant health information represents a significant barrier for many older women in Hong Kong, particularly those with lower education levels or limited English proficiency. Health literacy—the capacity to obtain, process, and understand basic health information needed to make appropriate health decisions—varies considerably by age, education, and socioeconomic status. Interventions to improve sexual health knowledge must account for varied health literacy levels and employ multiple communication strategies to reach diverse subpopulations of postmenopausal women.

Figure 2: Sexual Health Knowledge Gaps





4. HIV Risk Perception and Risk Assessment

4.1 Patterns of Risk Perception

HIV risk perception—the subjective assessment of one's likelihood of acquiring HIV infection—plays a crucial role in motivating preventive behaviors including HIV testing, condom use, and partner communication. However, research consistently demonstrates that risk perception among women is frequently inaccurate and discordant with actual epidemiological risk. A longitudinal study in South Africa found that the proportion of women testing HIV-positive in 2009 was almost identical across all perceived risk categories in 2005 (no, small, moderate, great risk), with no relationship between baseline risk perception and subsequent HIV infection ($\chi 2=1.43$, $p=0.85$) (Maughan-Brown & Venkataramani, 2017).

Among postmenopausal women, risk perception appears systematically biased toward underestimation. The cessation of fertility concerns, combined with societal assumptions about older women's sexuality, creates a psychological environment where HIV risk feels irrelevant or impossible. Research conducted among older adults in Malawi found that midlife-older adults (≥30 years) associated their age with respectability and identified HIV as a disease of youth that would not affect them, with age protecting them against infidelity and sexual risk-taking (Johnson et al., 2020). These age-based assumptions led to HIV testing being perceived as a threat to social status by older adults, contributing to low levels of recent HIV testing compared to younger adults.

4.2 Factors Influencing Risk Perception

Multiple factors shape HIV risk perception among postmenopausal women. Demographic factors including age, marital status, and education level significantly influence perceived risk. Research has shown that widowed and divorced women often have distinct risk perceptions compared to married or never-married women. A study of HIV-positive migrants living in Portugal found that being divorced or widowed was associated with 77% higher odds of knowledge and utilization of HIV self-testing compared to never-married individuals (AOR=1.77, 95% CI: 1.13-1.34) (Terefe et al., 2024), suggesting some recognition of risk in this demographic.

Psychosocial factors including stigmatizing attitudes, HIV-related knowledge, and social norms substantially influence risk perception. The likelihood of reporting moderate or great HIV-risk perceptions has been associated with condom use (aOR: 0.57; 95% CI: 0.36-0.89), having 3 or more lifetime partners (aOR: 2.38, 95% CI: 1.53-3.73), knowledge of partner's HIV status, and being in age-disparate partnerships (Maughan-Brown & Venkataramani, 2017). Conversely, risk perception appears disconnected from sexually transmitted disease history and respondent age, both strong predictors of actual HIV risk.

Behavioral factors including sexual partner characteristics and condom use patterns also influence risk assessment. Women whose partners refuse condom use, have unknown HIV status, or engage in concurrent partnerships report higher perceived risk. However, the relationship between behavior and risk perception is complex and bidirectional—higher risk perception can motivate preventive behaviors, while adoption of prevention methods (like condom use) may lead to down-adjustment of perceived risk (Schaefer et al., 2019).

4.3 Risk Underestimation and Optimistic Bias

Systematic risk underestimation represents a critical challenge for HIV prevention among divorced and widowed postmenopausal women. Optimistic bias—the tendency to believe that negative events are less likely to happen to oneself than to others—appears particularly pronounced in this population. Several mechanisms contribute to this bias:

Perceived invulnerability based on age: The association of HIV with youth and sexual promiscuity creates a psychological buffer whereby older women in long-term or serial

monogamous relationships perceive themselves as fundamentally different from "high-risk" populations. This categorization bias prevents accurate self-assessment of risk based on partner behaviors or one's own sexual practices.

Marital history and relationship status: Divorced and widowed women who re-enter sexual partnerships often perceive new relationships as "safer" based on partner characteristics such as age, education, or social status rather than on actual sexual behavior or HIV testing. The assumption that partners in the same age cohort or social class are unlikely to be HIV-positive represents a dangerous cognitive shortcut.

Biological misconceptions: Limited understanding of how menopausal changes increase HIV transmission risk means that women may actually feel less vulnerable after menopause due to the end of pregnancy risk. The conflation of pregnancy prevention with STI prevention creates a false sense of security.

4.4 Consequences of Inaccurate Risk Perception

Inaccurate HIV risk perception has direct consequences for preventive behaviors and health outcomes. Research examining the relationship between risk perception and condom use found that HIV risk perception was not always associated with safer sexual behaviors or a reduction in risk behaviors among men who have sex with men and transgender women in sub-Saharan Africa (Chimwaza et al., 2022). Similar disconnects likely exist for postmenopausal women, where perceived low risk translates to low motivation for HIV testing, inconsistent condom use, and failure to disclose HIV status or discuss sexual health with partners.

The public health implications of risk underestimation are substantial. Women who do not perceive themselves at risk are less likely to seek HIV testing, potentially resulting in late diagnosis and delayed treatment initiation. Late HIV diagnosis among postmenopausal women contributes to more advanced disease at presentation, poorer treatment outcomes, and continued HIV transmission to partners. Studies have shown that midlife-older adults in high HIV prevalence settings demonstrate low levels of recent HIV testing compared to younger adults, directly attributable to low perceived risk and age-related stigma around HIV testing (Johnson et al., 2020).

5. Condom Negotiation and Safer Sex Practices

5.1 Condom Use Patterns and Prevalence

Condom use among postmenopausal women remains critically low across diverse global contexts. Research examining HIV risk among sexually active HIV-negative pregnant women in Uganda found that 80% reported generally abstaining from condom use (Theuring et al., 2021). Even among populations at known high risk, including women with HIV-positive partners, condom use remains inconsistent. A study of high-risk women in Mombasa, Kenya, found that while HIV testing was easily accessible, only 30.7% of surveyed women living with HIV reported using condoms when having sex with their husbands (Goyette et al., 2017).

Among divorced and widowed postmenopausal women specifically, condom use appears particularly low. Research on divorced or separated older women (50+ years) found that sexual risk was reduced by 6.10 points following a web-based intervention, suggesting baseline risk levels were substantial (Weitzman et al., 2019). The low prevalence of condom use in this demographic reflects multiple intersecting factors including perceived low risk, partner objection, lack of negotiation skills, and the prioritization of relationship intimacy over HIV prevention.

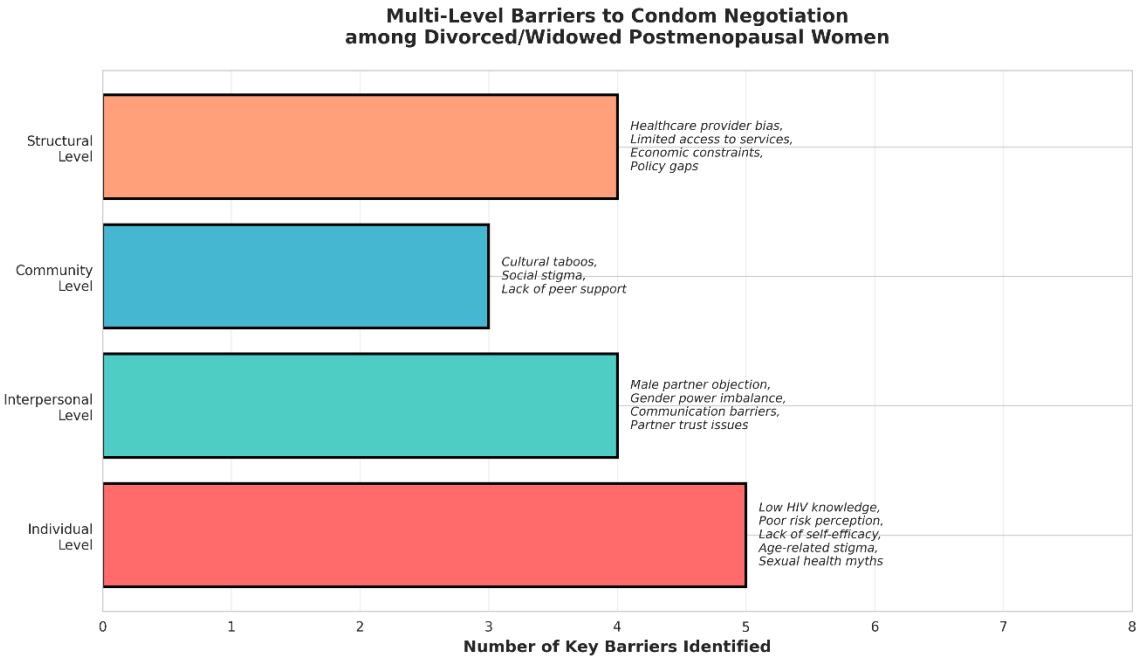
Patterns of condom use also vary by partnership type and relationship duration. Research has shown more consistent condom use with casual or new partners compared to regular or established partners. A study in Hong Kong examining age-based sexual mixing found that older age groups of both sexes reported less consistent condom use with all partner types, with particularly inconsistent use noted in combinations of older men with younger casual/commercial female partners (Smith et al., 2022). This age-related decline in condom use underscores the need for targeted interventions addressing the specific barriers faced by older adults.

5.2 Multi-Level Barriers to Condom Negotiation

Barriers to condom negotiation among divorced and widowed postmenopausal women operate at multiple levels of the socio-ecological framework, as illustrated in Figure 3 (see

Figure 3). Understanding these multi-level barriers is essential for developing effective interventions.

Figure 3: Multi-Level Barriers to Condom Negotiation



Individual-Level Barriers

At the individual level, barriers include limited sexual health knowledge, low self-efficacy for condom negotiation, lack of condom-carrying or purchasing behavior, and inadequate communication skills. Research has demonstrated that women with confidence to negotiate condom use with partners are significantly more likely to practice condom use for HIV risk reduction (OR = 1.57, 95% CI: 1.29-1.91) (Saaka et al., 2024). However, many postmenopausal women lack the skills, confidence, and practice to effectively negotiate condom use, particularly if they spent many years in marriages where contraception rather than STI prevention was the primary concern.

Age-related stigma represents an additional individual-level barrier. Older women report feeling embarrassed or inappropriate requesting condoms, viewing such behavior as inconsistent with their age or social status. This internalized ageism undermines assertiveness in sexual health decision-making. Studies of older African American women have found that self-esteem issues and depression contribute to engaging in high-risk

sexual behaviors, while lack of comfortable discussion about sexual practices with physicians, partners, and friends further isolates women from sources of support and information (Thames et al., 2018).

Interpersonal-Level Barriers

Interpersonal barriers center on partner dynamics and relationship characteristics. Male partner objection to condom use represents one of the most frequently cited and powerful barriers to safer sex. Research across diverse cultural contexts has identified male partner refusal as a pervasive factor preventing both initial and continued condom use among women (Moore et al., 2015). For divorced and widowed women re-entering relationships, the desire for intimacy, fear of partner abandonment, and concern about implying distrust create powerful disincentives for raising condom use.

Gender power imbalances fundamentally constrain women's capacity to negotiate safer sex. Studies have shown that women's ability to negotiate condom use is significantly influenced by relationship power dynamics, with women in less equitable relationships demonstrating reduced capacity to insist on condom use even when they perceive HIV risk (Saaka et al., 2024). Research among female migrants found that disclosure of HIV status prevented women from negotiating condom use with partners due to fear of marital conflict and losing social and financial support (Ayuttacorn et al., 2019).

Communication barriers compound power imbalances. Many couples, particularly those in which both partners are older, lack experience or skills for open sexual health communication. Cultural norms that discourage frank discussion of sexuality, combined with gendered expectations about sexual modesty and male sexual authority, create environments where women cannot raise concerns about HIV risk without violating relationship norms or threatening partnership stability.

Community-Level Barriers

At the community level, social norms, stigma, and lack of peer support undermine condom negotiation. Cultural taboos surrounding discussion of sexuality among older adults, combined with stigmatizing attitudes toward STIs and HIV, create environments where women feel unable to acknowledge sexual activity or STI risk. Research in Asian contexts

has identified particularly strong cultural and religious influences on condom use and sexual health communication, with conservative norms creating barriers to both information access and preventive behavior adoption (Fauk et al., 2021).

Lack of positive peer support and normative models for safer sex among postmenopausal women leaves individual women isolated in their efforts to negotiate condom use. Unlike younger populations where peer education and social norm campaigns have shown some success in promoting safer sex, postmenopausal women report limited social networks for discussing sexual health and few opportunities to learn from peers' experiences. The absence of visible, culturally appropriate role models engaging in safer sex further marginalizes the possibility of condom use in this demographic.

Structural-Level Barriers

Structural barriers include health system factors, policy gaps, and economic constraints. Healthcare provider attitudes and practices represent significant structural barriers. Research has documented that providers rarely discuss sexual health with postmenopausal patients, treating them as asexual or assuming monogamy eliminates STI risk (Huang et al., 2024). When sexual health is addressed, discussions focus on managing menopausal symptoms rather than HIV/STI prevention, missed opportunities to normalize condom use, and support negotiation skills.

Limited availability and accessibility of female-friendly condoms and lubricants designed for postmenopausal women's physiological needs create additional structural barriers. Standard condoms may be uncomfortable or painful for women experiencing vaginal atrophy and reduced lubrication, while female condoms remain poorly distributed and rarely promoted in Hong Kong and other Asian contexts (Moore et al., 2015). Economic barriers, including the cost of condoms and lubricants as well as transportation to access services, disproportionately affect divorced and widowed women who may have limited financial resources.

Policy gaps in sexual health education, HIV prevention programming, and health system organization leave postmenopausal women's needs unaddressed. Most HIV prevention initiatives target younger populations, while aging-focused health services prioritize

chronic disease management over sexual health. This categorical exclusion from both youth-focused HIV programs and older adult health services leaves divorced and widowed postmenopausal women in a service gap with few tailored resources or support systems.

5.3 Negotiation Strategies and Facilitators

Despite substantial barriers, some postmenopausal women successfully negotiate condom use. Research has identified several facilitators and effective strategies:

Education and knowledge: Women with secondary education or higher demonstrate significantly increased odds of condom use for HIV risk reduction (OR = 1.38, 95% CI: 1.07-1.77) (Saaka et al., 2024). Educational attainment appears to enhance both knowledge and self-efficacy, providing cognitive and social resources for negotiation.

Economic empowerment: Women from wealthier households show increased likelihood of practicing condom use (OR = 1.64, 95% CI: 1.08-2.47) (Saaka et al., 2024). Economic independence reduces dependence on male partners for financial support, thereby enhancing bargaining power in relationships and enabling women to prioritize their health over relationship maintenance.

HIV testing history: Women who have been tested for HIV demonstrate higher rates of condom use (OR = 1.85, 95% CI: 1.52-2.24) (Saaka et al., 2024), suggesting that HIV testing serves as a teachable moment that enhances risk awareness and motivates preventive behavior.

Social support and peer networks: Access to supportive social networks where sexual health can be discussed openly facilitates both knowledge acquisition and behavioral change. Interventions employing peer support models have shown promise in enhancing sexual health communication and safer sex practices among women (Davis et al., 2022).

6. Biological and Psychosocial Determinants

6.1 Biological Factors: Menopause and HIV Susceptibility

Menopause brings profound physiological changes that directly influence HIV transmission risk. The dramatic decline in estrogen production leads to vaginal atrophy—

characterized by thinning of the vaginal epithelium, reduced elasticity, decreased lubrication, and altered pH balance. These changes increase susceptibility to micro-tears and trauma during sexual intercourse, creating entry points for HIV and other sexually transmitted pathogens. Studies have documented that bacterial vaginosis, a condition strongly associated with HIV acquisition risk, shows prevalence of 16.93% among postmenopausal women (95% CI: 8.5-27.4) (Stewart et al., 2022).

Hormonal changes also affect immune function. Research indicates that sex steroid hormones have opposing effects on immune cells, with estradiol mainly enhancing immune responses while testosterone is largely suppressive (GiefingKrll et al., 2015). At the menopause transition, dropping estrogen levels potentially enhance immunosenescence, posing postmenopausal women at additional yet specific HIV acquisition risks. The interaction of biological aging with hormonal changes creates a unique vulnerability profile that remains poorly understood and inadequately addressed in HIV prevention efforts.

The relationship between menopausal symptoms and sexual behavior adds complexity. Vasomotor symptoms (hot flashes and night sweats), experienced by 30-80% of postmenopausal women (Panel*, 2005), often disrupt sleep and contribute to fatigue, mood changes, and reduced sexual desire. Vaginal dryness and painful intercourse affect 17-39% of postmenopausal women (Panel*, 2005), creating disincentives for sexual activity and potential resistance to condom use, which may exacerbate discomfort. These symptoms directly and indirectly influence sexual health decision-making and HIV risk behaviors.

6.2 Psychological Factors: Mental Health and Sexual Well-Being

Mental health significantly influences sexual health behaviors and HIV risk among postmenopausal women. Research demonstrates high prevalence of mental health disorders among women living with HIV, with 82.6% having one or more lifetime disorders including mood disorders (34.2%), anxiety disorders (61.6%), and substance use disorders (58.3%) (Cook et al., 2018). Among divorced and widowed postmenopausal women specifically, prevalence of depression ranges from 8-38%, with being divorced or widowed independently associated with increased depression risk (AOR=1.56-1.93) (Zeleke et al., 2025).

Depression and psychological distress directly influence sexual health behaviors. Studies have shown that women with 12-month behavioral health disorders are significantly more likely to engage in sexual and substance use HIV risk behaviors (Cook et al., 2018). Among divorced and widowed postmenopausal women in China, loneliness was significantly associated with being female (AOR = 1.542), divorced or widowed marital status (AOR = 1.686), living alone (AOR = 2.314), and having no friends (AOR = 1.779) (Hou et al., 2023). This clustering of psychosocial vulnerabilities creates environments where sexual health is deprioritized and risky sexual behaviors may be employed as coping mechanisms.

Sexual dysfunction represents both a consequence and contributor to psychological distress among postmenopausal women. Studies indicate that 38.7% of women living with HIV experience sexual dysfunction, with prevalence significantly higher among divorced and widowed women (Mutamba et al., 2024). The interplay between sexual dysfunction, depression, relationship dissatisfaction, and HIV risk creates complex challenges requiring integrated bio-psychosocial interventions.

6.3 Social Determinants: Stigma, Isolation, and Support

Social determinants profoundly shape HIV risk among divorced and widowed postmenopausal women. HIV-related stigma affects both risk perception and health-seeking behaviors. Research has shown that perceived HIV-related stigma is associated with increased depression among women living with HIV, with social support partially mediating this relationship (Zeleke et al., 2025). For divorced and widowed women, HIV stigma may be compounded by stigma associated with marital dissolution, particularly in conservative cultural contexts where divorce carries significant social shame.

Social isolation represents a critical risk factor. Divorced and widowed postmenopausal women often experience reduced social networks following marital dissolution, with 33.5% living alone according to some studies (Hou et al., 2023). Social isolation is associated with poorer mental health, reduced access to health information, decreased health service utilization, and engagement in higher-risk sexual behaviors as women seek intimacy and connection. Research on older African American women found that depression, loneliness,

and self-esteem issues were identified as reasons for engaging in high-risk sexual behaviors (Thames et al., 2018).

Conversely, social support serves as a protective factor. Women with strong social networks and peer support demonstrate better sexual health outcomes, including higher rates of HIV testing, more consistent condom use, and greater ability to negotiate safer sex (Fonner et al., 2014). Community-level social support and collective action among women have been shown to provide significant protection from HIV infection for female sex workers in Swaziland, suggesting that building social capital could similarly benefit divorced and widowed postmenopausal women (Fonner et al., 2014).

6.4 Structural Determinants: Socioeconomic Status and Healthcare Access

Socioeconomic factors fundamentally structure HIV risk and prevention capacity. Research consistently demonstrates that poverty, low education, unemployment, and economic dependence are associated with increased HIV risk among women. Among postmenopausal women specifically, those from wealthier households are significantly more likely to practice condom use for HIV risk reduction (OR = 1.64, 95% CI: 1.08-2.47) (Saaka et al., 2024), while employed women show higher odds of condom use compared to unemployed women (OR = 1.23, 95% CI: 1.02-1.49) (Saaka et al., 2024).

For divorced and widowed women, economic vulnerability may be particularly acute. Loss of household income following divorce or widowhood, combined with limited employment opportunities for older women, creates financial pressures that can drive transactional sex or economically dependent relationships where sexual health negotiation capacity is constrained. Research has shown that financial agency and economic empowerment are associated with reduced HIV risk among women, suggesting that economic interventions could be important components of comprehensive HIV prevention (Bermudez et al., 2021).

Healthcare access represents a critical structural determinant. Despite living in a developed healthcare system, divorced and widowed postmenopausal women in Hong Kong may face multiple barriers to sexual health services including lack of youth-friendly or age-appropriate services, provider attitudes and biases, cost, transportation, and lack of

knowledge about available resources. Research has documented that only 35.7% of migrant women in Italy had undergone a gynecological examination since arrival, and 50.2% had received STI screening, despite high rates of sexual activity and risk behaviors (Mazzitelli et al., 2025). Similar access barriers likely exist for divorced and widowed postmenopausal women who may be invisible to both reproductive health and geriatric services.

7. Health System Response and Service Provision

7.1 Current State of Sexual Health Services for Postmenopausal Women

The current healthcare system response to the sexual health needs of postmenopausal women, particularly those who are divorced or widowed, remains profoundly inadequate across most global contexts including Hong Kong. A clinical audit of women living with HIV attending sexual health services in Sydney, Australia, revealed significant gaps in screening and assessment. Among women aged 45 years or older, only 46.2% were documented as postmenopausal, while 30.8% did not have menopausal status recorded (Huang et al., 2024). More concerning, only 15.4% had absolute cardiovascular disease risk calculated, and none had Fracture Risk Assessment Tool scores or cognitive screening performed in the prior 12 months (Huang et al., 2024).

Sexual health and HIV prevention services are predominantly designed for and marketed toward younger populations. This youth-centered approach creates multiple barriers for postmenopausal women including:

- Age-inappropriate health promotion materials and messaging
- Lack of provider training on menopause-related HIV risk factors
- Absence of routine sexual health screening for older women
- Limited availability of age-appropriate counseling and education
- Fragmentation between reproductive health, HIV prevention, and geriatric services

Research examining sexual health interventions for middle-aged and older adults identified only nine studies meeting inclusion criteria, with seven focused on HIV risk reduction, highlighting the paucity of evidence-based interventions for this population (Tyndall et al., 2022). The limited intervention research that exists has shown promising results—for

example, a web-based HIV/STD prevention intervention for divorced and separated older women demonstrated significant improvements in intention to practice safe sex, sexual risk reduction, and self-efficacy for sexual discussion (Weitzman et al., 2019).

7.2 Provider Attitudes, Biases, and Communication Gaps

Healthcare provider attitudes and behaviors represent critical barriers to sexual health service provision for postmenopausal women. Research has consistently documented that providers rarely initiate conversations about sexual health with older patients, operating under assumptions that older adults are not sexually active or are in monogamous relationships that eliminate STI risk. A study of obstetrician-gynecologists found that 60% did not routinely discuss sexual issues with patients (Carr, 2015), suggesting widespread provider discomfort or lack of prioritization of sexual health conversations.

When sexual health is addressed with postmenopausal women, discussions typically focus narrowly on managing vasomotor symptoms and vaginal dryness rather than comprehensively addressing HIV/STI risk, sexual function, pleasure, and relationship health. The medicalization of menopause as primarily an endocrine disorder requiring hormone replacement therapy overshadows the broader sexual health needs and HIV prevention requirements of this population (Panel*, 2005).

Provider bias and discrimination based on age, marital status, and perceived sexual activity compound these communication gaps. Research on HIV-positive female migrants in Portugal found that healthcare workers demonstrated stigmatizing attitudes including denial of contraceptive and maternal health services, forced sterilization, breach of confidentiality, and disclosure of HIV status without consent (Yuvaraj & Kundu, 2020). While such extreme discrimination may be less common in Hong Kong, subtle forms of bias including dismissive attitudes, failure to ask about sexual activity, and assumptions about monogamy create environments where postmenopausal women feel unable to discuss sexual health concerns.

7.3 Integration of Sexual Health into Primary Care and Aging Services

Effective service delivery for divorced and widowed postmenopausal women requires integration of sexual health into both primary care and aging-focused health services. The

fragmentation between reproductive health services, HIV prevention programs, and geriatric care creates service gaps where postmenopausal women's needs fall through. Integrated care models that address the full spectrum of health needs—including chronic disease management, mental health support, menopause symptom management, sexual health, and HIV/STI prevention—represent the ideal approach but remain rare in practice (Thompson et al., 2020).

Primary care settings offer particular opportunities for routine sexual health screening, HIV risk assessment, and prevention counseling. Research has emphasized that primary care guidance for persons with HIV must address the full continuum of sexual and reproductive health needs across the lifespan (Thompson et al., 2020). Extension of this principle to HIV prevention for at-risk populations including divorced and widowed postmenopausal women would necessitate:

- Routine sexual health history taking for all adults regardless of age
- Regular HIV/STI risk assessment and testing offered to sexually active older adults
- Provision of age-appropriate sexual health counseling and education
- Access to contraception, condoms, and lubricants suitable for postmenopausal physiology
- Screening for intimate partner violence and sexual coercion
- Mental health assessment and support
- Referral pathways to specialized services when needed

7.4 HIV Testing and Counseling Gaps

HIV testing represents a critical entry point for prevention and care, yet testing rates among divorced and widowed postmenopausal women remain low. Research examining factors associated with lifetime HIV testing among women in Southeast Asian countries found that marital status, age, education, and wealth were significantly associated with testing uptake (Khin et al., 2023). Divorced and widowed women demonstrated higher testing rates in some contexts (AOR=1.77 in sub-Saharan Africa) (Terefe et al., 2024), potentially reflecting increased risk awareness following marital dissolution.

However, substantial testing gaps persist. Studies have shown that self-perceived HIV risk is a key terminant of HIV testing uptake, yet the low risk perception among postmenopausal women creates a fundamental barrier to seeking testing services (Johnson et al., 2020). HIV self-testing (HIVST) has emerged as a promising strategy to increase testing uptake among populations who face barriers to facility-based testing. Research has shown that HIVST increased test frequency and yielded higher proportions of first-time testers, with particular benefits for key populations (Witzel et al., 2020). However, knowledge and utilization of HIVST among women in sub-Saharan Africa was only 2.17%, indicating that even innovative testing approaches remain underutilized (Terefe et al., 2024).

Counseling services for postmenopausal women require specialized approaches that address age-specific concerns, relationship dynamics, and the psychosocial context of testing. Standard HIV counseling protocols designed for younger populations may not adequately address the fears, concerns, and information needs of divorced and widowed postmenopausal women. Counseling must acknowledge the stigma and shame that older women may experience around HIV testing, normalize sexual activity in later life, and provide practical guidance on risk reduction strategies appropriate for their life circumstances.

8. Discussion and Synthesis of Findings

The evidence synthesized in this report reveals that divorced and widowed postmenopausal women in Hong Kong and globally face a complex constellation of biological, psychological, social, and structural vulnerabilities that heighten HIV risk while simultaneously reducing perceived susceptibility and access to prevention resources. This paradoxical situation—increased vulnerability coupled with decreased awareness and service provision—creates a dangerous blind spot in HIV prevention efforts that demands urgent attention.

Several key themes emerge from the literature. First, the biological changes of menopause directly increase HIV transmission risk through vaginal atrophy and immune system changes, yet these physiological vulnerabilities remain poorly understood by both

postmenopausal women and healthcare providers. Second, HIV risk perception among this population is systematically distorted by age-based assumptions, societal narratives about older women's sexuality, and the conflation of fertility cessation with STI invulnerability. Third, condom negotiation capacity is constrained by multi-level barriers operating at individual, interpersonal, community, and structural levels, with gender power dynamics and male partner resistance representing particularly intractable challenges. Fourth, the healthcare system response remains profoundly inadequate, characterized by provider biases, fragmented services, and the absence of age-appropriate sexual health programming.

The Hong Kong context presents unique opportunities and challenges. As a developed region with strong health infrastructure and universal healthcare access, Hong Kong possesses the resources to address these gaps effectively. However, cultural conservatism around sexuality, traditional gender norms, and the marginalization of divorced and widowed women in Chinese society create powerful barriers to open discussion and service provision. The intersection of traditional Chinese values with modern healthcare systems requires culturally adapted approaches that respect cultural sensitivities while prioritizing women's health and rights.

9. Recommendations

9.1 Research Priorities

Future research must prioritize qualitative investigations that center the voices and lived experiences of divorced and widowed postmenopausal women in Hong Kong. Mixed-methods studies examining sexual health knowledge, risk perception, and condom negotiation barriers specific to this population would provide essential evidence for intervention development. Longitudinal research tracking sexual health trajectories following divorce or widowhood could illuminate critical intervention windows and inform prevention timing.

9.2 Clinical Practice Improvements

Healthcare providers must receive training on sexual health assessment and counseling for postmenopausal patients, challenging ageist assumptions and normalizing comprehensive sexual health care across the lifespan. Routine sexual history taking, HIV/STI risk

assessment, and testing should be integrated into primary care for all adults regardless of age. Development of clinical guidelines specific to postmenopausal sexual health would support standardized, evidence-based practice.

9.3 Health Education and Promotion

Culturally appropriate, age-specific sexual health education campaigns must be developed and disseminated through multiple channels including healthcare settings, community organizations, and digital platforms. Educational materials should explicitly address the intersection of menopause and HIV risk, challenge myths about older women's invulnerability, and provide practical guidance on condom negotiation and safer sex strategies.

9.4 Policy and Program Development

HIV prevention programming must expand beyond youth-focused initiatives to include divorced and widowed postmenopausal women as a priority population. Integration of sexual health services into aging-focused healthcare platforms would improve access and reduce fragmentation. Policy advocacy to reduce stigma, promote women's sexual health rights, and ensure equitable service provision across the lifespan represents an essential structural intervention.

10. Conclusion

Divorced and widowed postmenopausal women represent an invisible and underserved population in HIV prevention efforts. The convergence of biological vulnerabilities, psychosocial challenges, sociocultural barriers, and health system inadequacies creates a perfect storm of HIV risk that remains largely unaddressed. As populations age globally and HIV prevalence increases among older adults, the sexual health needs of postmenopausal women—particularly those navigating marital dissolution—must move from the margins to the center of public health attention.

Hong Kong has both the resources and the imperative to lead regional efforts in addressing this critical gap. By prioritizing research, strengthening clinical practice, expanding health education, and reforming policies and programs, Hong Kong can model comprehensive,

rights-based approaches to sexual health across the lifespan. The health and dignity of divorced and widowed postmenopausal women demand nothing less than full recognition of their sexual health needs and HIV prevention rights. Only through concerted action at individual, relational, community, and structural levels can we ensure that no woman—regardless of age or marital status—is left behind in the global HIV response.

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