



## Commentary

# Addressing Women's Needs with Human Immunodeficiency Virus (HIV) and Enhancing the Visibility of Pharmacists in the Public Health Arena

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**Abstract:** Human Immunodeficiency Virus (HIV) continues to have a staggering effect on women's lives in the United States (U.S.). Women Living With HIV (WLWH) face many challenges, such as mental health disorders, compared to their male counterparts. These diagnoses make women more disproportionately affected, and meaningful healthcare interventions must address these conditions. This review has three foci: WLWH in the U.S., their access to care and staying in care once antiretroviral treatment has been initiated, coping with mental health, and the role of the U.S. pharmacists in access to the treatment. Pharmacists are the most easily accessible healthcare profession in the U.S. For example, 93% of American customers live within 5 miles of a community pharmacy. Pharmacists are the last healthcare provider with whom the patient interacts before a medication is dispensed; thus, they are in an ideal position to intervene. Engaging pharmacists to provide care for patients with chronic disease states such as HIV has resulted in positive outcomes. Although there are global and U.S. studies that emphasize the role of pharmacists in directing care for persons living with HIV, there is a lack of studies conducted about the role of pharmacists in managing mental health. Future research must address WLWH and mental health conditions to develop targeted interventions from an interdisciplinary team perspective.

**Keywords:** HIV/AIDS; women; HIV-positive; prevalence; pharmacist roles



**Citation:** Cernasev, A.; McMurray, D.; Wilson, B. Addressing Women's Needs with Human Immunodeficiency Virus (HIV) and Enhancing the Visibility of Pharmacists in the Public Health Arena. *Women* **2022**, *2*, 346–352. <https://doi.org/10.3390/women2040032>

Academic Editor: Mary V. Seeman

Received: 30 July 2022

Accepted: 21 September 2022

Published: 9 October 2022

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## 1. Introduction

Human Immunodeficiency Virus (HIV) continues to have a staggering effect on women in the United States (U.S.). Recent Center for Disease Control (CDC) reports show an alarming rate of HIV diagnosis for women of color, which accounts for 78% of the new diagnosis of HIV. In 2019, Black/African American Women had the highest number of new infections with HIV, 58% [1]. White Women accounted for 22% of new infections, and Hispanic/Latina Women accounted for 19% of new infections [1]. This is despite Whites making up 59% of the U.S. population, Hispanics/Latina making up 18.9%, and Blacks/African American making up 13.6%, according to the 2022 censuses [1,2]. CDC reports that 1.2 million people in the U.S. have HIV. Approximately 13% of these people are unaware of their status [3]. The situation is even more tragic because out of those who are aware of their HIV status, 23.3% are women [3]. Although the incidence of HIV cases declined in the U.S. in the last few years, the new HIV cases in women remained stable [3]. To illustrate, a study conducted in the San Francisco area with Asian women employed as masseuses reported sporadic usage of condoms when having sexual contact with customers [4]. This study emphasized the tragic situation of Asian women who experienced it at the work and personal level [4]. Asian Americans (both men and women) make up approximately 6% of

the U.S. population and account for 2% of new HIV diagnoses [5]. The overall number of cases is relatively low in Asian Americans; however, these rates have increased and it is estimated that only 80% of Asian Americans living with HIV know their status, which is the lowest of any ethnicity [5].

Subsequently, this data shows that Women Living With HIV (WLWH) represent a disproportionately affected population negatively impacted by the higher prevalence of HIV. Further, WLWH is more prone to have mental health disorders and is more likely to experience decreased health outcomes [6,7]. Thus, the data call for a joint synergism in preventing HIV transmission and finding available resources to enhance access to antiretroviral treatment and mental health disorders treatment. Furthermore, research is needed to understand the link to care in WLWH and adherence to psychiatric medications.

Indeed, WLWH continues to face many challenges, such as mental health disorders, compared to their male counterparts [8]. It is not known whether women with mental illness are more at risk of contracting HIV or if the disease process causes mental health concerns [8]. For instance, intimate partner violence or inconsistent condom use could increase women's risk of contracting HIV. Still, it is well documented that women experience three times more mental health concerns after an HIV diagnosis than were experienced before the diagnosis [8]. Mental health diagnoses in WLWH have been linked to decreased adherence to HIV medications and falling out of the continuity of care [8]. In the United States specifically, more than 80% of WLWH are racial/ethnic minorities, leading to increased stress and stigma through the intersectionality of health status, race, poverty, health care accessibility, and gender-based discrimination [8].

Further compounding issues such as the enhanced prevalence of mental health disorders in WLWH and adverse health outcomes in the women, it is mandatory to understand the necessary steps to improve outcomes among this understudied population. For example, depression has been linked to disease progression, increased mortality, and lower medication adherence [8]. Post-traumatic stress disorder (PTSD) has been linked to lower CD4 counts and lower medication adherence [8]. These studies illustrate that mental health should be a prime focus in WLWH. Although previous studies focused on WLWH, there is limited research to address WLWH and mental health disorders in the U.S. In addition, there is a lack of research to explore healthcare interventions led by pharmacists centered on mental health disorders in WLWH [8].

Pharmacists are ranked among the two most trusted healthcare professionals in the U.S. [9]. A previous study demonstrated that pharmacist-delivered patient care service that aims to improve prescribed antiretroviral medications' therapeutic outcomes had positive outcomes [10]. This retrospective study by Kaiser Permanente Medical Center compared patient outcomes before and after pharmacist interventions [10]. Average pill counts decreased from 7.2 to 5.4 after pharmacist intervention [10]. Similarly, a systematic literature review of the pharmacist-led interventions reported improved outcomes in chronic disease states such as HIV [11]. Newman et al. found that adherence to antiretroviral treatment was 18% in the pharmacist intervention group after one year and 22% higher after three years [11]. This study also showed that PLWH were less likely to have an excess fill of medications by 22% in the first year and 25% in the third year [11].

## 2. Results

### 2.1. *Landscape of Healthcare Disparities in WLWH and Mental Health Disorders*

The U.S. continues to be confronted with significant racial and ethnic disparities in women's health that yield inequalities in healthcare access. The causes of these inequalities are multifaced, with structural racism and implicit bias leading contributors [12]. Historically, women of color have been disproportionately affected by higher rates of poverty and lower access to healthcare compared to Whites [13,14]. Barriers such as stigma, socioeconomic inequalities, access to HIV treatment, and retention to treatment are the leading contributor to healthcare disparities in the U.S. [13,15]. Earlier research attributed depression, psychological abuse, and disease severity to a higher risk of experiencing an obstacle

to accessing healthcare in women of color in the southeastern region of the U.S. [15]. To date, the high prevalence of mental health disorders such as depression, anxiety, and PTSD among WLWH represents a significant impediment to accessing and adhering to treatment [16].

Prior U.S. research demonstrated that WLWH and suffering from depression have negative interpersonal relationships [17]. Vyavaharkar et al. highlighted a negative correlation between depression and the disclosure of HIV-positive status [17]. Furthermore, WLWH and suffering from depression have been linked to poorer outcomes in terms of family responsibilities and functional integration in their families [18].

It is important to note that previous literature highlights the role of stigma in addition to gender, race, and sexual orientation inequalities on the well-being of Black/African American Women diagnosed with HIV and mental health conditions [19–21]. For example, Travaglini et al. studied the link between HIV stigma and mental health symptoms in Black/African American Women living with HIV [22]. They reported no correlation between stigma, physical health, and the use of coping approaches [22]. As previous research recommended, Black/African American Women living with HIV and mental health disorders must seek appropriate support for psychological and social interventions to decrease stigma [22]. Turan et al. reported that WLWH and experiencing internalized stigma (i.e., “I feel I’m not as good as others because I have HIV”) experience more depressive symptoms and lower medication adherence rates than their counterparts who do not have this internalized stigma [23]. Linking these patients to mental health clinics could increase medication use and decrease depressive thoughts [23]. Lastly, Poteat et al. found that while 45% of Black/African American transgender women in the U.S. are living with HIV, many are unable to remain in the HIV care continuum [24]. Furthermore, given that more research is ongoing to find a cure for HIV, only one transgender woman has ever participated in an HIV-cure related study [24]. Stigma and lack of access to care have aided in these worsening conditions for transgender black women living with HIV [24].

As previously noted, Black/African American Women are disproportionately affected by HIV and accounted for the majority of new diagnoses in 2018 [25]. Furthermore, Black/African Americans (both men and women combined) represented 43% of all deaths among people living with HIV in 2018. Wright et al. took an intersectional approach to determine why Black/African American Women who lived in the southeastern U.S. were affected by HIV at higher rates than their peers. Using an intersectional approach, they decided that most women included in the study were low-income and on disability [25]. The study also determined that those women who lived in more crime-ridden areas experienced a higher likelihood of PTSD, substance abuse disorder, and lower medication adherence [25].

## 2.2. Clinical Interventions and Pharmacists’ Roles

Healthcare providers, such as pharmacists, who interact with patients during medication dispensing are optimally positioned to help them and ensure they are taking and adhering to the prescribed medication regimens. Pharmacists are among the most easily accessible health care professionals—93% of Americans live within 5 miles of a community pharmacy [26]. In the last two decades, pharmacists’ roles have expanded beyond medication distribution to include integration in team-based care and comprehensive medication management [27]. In these new roles, the focus has evolved from the medication product to individualized clinical patient care [27]. For example, pharmacists are routinely involved in providing vaccination services, smoking cessation counseling, and screening for disease states [28,29]. Furthermore, pharmacists play key roles in disease state management where collaboration with physicians allows them to adjust medication therapy for conditions such as hypertension, diabetes, HIV/AIDS, and others [30–32]. Engaging pharmacists in these new patient care roles has resulted in positive patient health outcomes and decreased clinical burden for the healthcare team [33–36]. A new area for pharmacists’ involvement in the HIV-care continuum could be access to and administration of long-acting injectable

antiretroviral therapy (LAI ART). As noted above, most Americans live very close to a community pharmacy. If pharmacists were trained in giving LAI ART, more patients could have easier access to care through a once-monthly injection. One study found that women overwhelmingly endorsed LAI ART for convenience and to avoid the daily pill burden [37]. Women in the study noted that access to LAI ART could hinder them from receiving it. Still, access issues would disappear if community pharmacists were trained in drug administration [37]. However, lacunae exist in the U.S., exploring the impact of pharmacists on adherence to mental health treatment in WLWH.

### 3. Discussion

Mental health conditions resulted in a higher burden on WLWH, resulting in a lower quality of life and decreased HIV outcomes. For example, recent data demonstrated that HIV testing rates remain low amongst women in the U.S., especially in women with sexual practices that increase their risk of acquiring HIV [3]. Rates of HIV diagnosis in women are the highest in the District of Columbia, with 18.1 new cases per 100,000 people, followed by 10.2 in Georgia, 9.9 in Maryland, 9.7 in Florida, and 9.6 in Louisiana [3]. Women face unique challenges when it comes to HIV prevention and treatment. Although Pre-exposure prophylaxis (PrEP) is readily available to prevent HIV transmission, women's awareness of this successful intervention is decreased. For example, Marrazo et al. (2015) showed very low adherence in women. A difference in HIV transmission was not reported in a different population of Black/African American Women [38]. Newer studies have shown that the active ingredients in PrEP are 100 times higher in rectal tissue than in vaginal tissue. Thus, women may need much higher adherence levels than men to be protected against HIV [39]. It has also been noted that women at risk for HIV could have decreased awareness of their partner's risk level, causing them not to seek out PrEP services or causing low adherence levels when utilizing PrEP services [40,41]. Studies show the need for interventions to prevent the transmission of HIV in women. However, the current literature focuses mainly on the harmful consequences that depression has on WLWH. Thus, future studies must explore how to address and provide mental health interventions for disproportionately affected women.

Prior studies focused on the link between HIV-negative outcomes and anxiety or depression [42,43]. However, there are limited research interventions with the main aim of outcomes addressing pharmacists' role in managing both diseases. For instance, one study on psychiatric patients living with HIV found that pharmacist involvement led to more patients being initiated on appropriate HIV regimens, increased lab monitoring, and increased opportunistic infection prophylaxis [44]. More patients also had access to comprehensive HIV management when pharmacists were involved more consistently than when they were not involved [44]. Additionally, Kibicho et al. noted that pharmacists are not used to their full potential regarding their knowledge and training [45].

A pharmacist-led intervention study showed that a multidisciplinary team approach resulted in retention to care for Persons Living with HIV (PLWH) and mental health conditions [46]. Furthermore, this study demonstrated that this pharmacist-led intervention enhanced viral suppression in PLWH and mental health conditions [46]. Although this study was not focused on WLWH and mental health disorders, further research is essential to learn how pharmacists could be engaged to develop long-lasting pharmacist-WLWH relationships rooted in trust. In the same vein, Margulis et al. evaluated the role played by an in-patient pharmacist intervention in antiretroviral treatment in PLWH and mental health conditions [44]. The study highlighted the pharmacist's role in managing these disease states by having a critical intervention through appropriate recommendations for laboratory testing and antiretroviral regimens [44]. Although the U.S. pharmacists are well positioned to provide care, earlier research described various obstacles to care. For example, a previous qualitative study conducted with African-born PLWH described the perceptions of the interaction with the pharmacists as a "business" or "transactional interaction" [47].

To address this “business” or “transactional interaction,” it was suggested for pharmacies to have private space where pharmacists could counsel PLWH and WLWH [47].

#### 4. Materials and Methods

Although the literature is abundant on HIV, most of it is focused on global issues, and it is limited to women’s implications to access care. Furthermore, the Southern states have witnessed new cases of HIV, and women have been disproportionately affected in the last decade. It is imperative to address women’s problems in the U.S. and the existing healthcare interventions and provide viable solutions to address them. Therefore, the Medical Subject Headings (MESH) terminology encompassed HIV/AIDS, mental health, and women. The research team used the following broad key terms ‘PTSD’, ‘HIV’, ‘U.S.’, ‘pharmacist’ and ‘women’. The inclusion criteria included articles focusing on women experiencing mental health disorders and being diagnosed with HIV and articles published in English. Case reports and series were evaluated and included based on the inclusion criteria. Previous reviews focused on women receiving treatment for both diseases; however, there is a lack of studies focusing on the role of pharmacists in managing these disease states in the U.S. Thus, in this review, we provide an overview of the current landscape of WLWH and mental health disorders and the role of U.S. pharmacists in enhancing care in this understudied population.

#### 5. Conclusions

Although a plethora of studies emphasizes the role of pharmacists in directing care for persons living with HIV, there are limited studies conducted about the role of pharmacists in managing mental health and HIV and addressing these disease states in women. Thus, pharmacists are well-positioned to provide education and support to women diagnosed with both diseases by addressing adherence to regimens and how to combat the side effects of treatment. In addition, it is essential to note that pharmacists’ clinical knowledge could be an integrated healthcare team by considering the extent of the needs in this population suffering from both diseases. Therefore, pharmacists can play significant roles in screening and identifying WLWH who would benefit from addressing these outcomes. These roles would encompass their interaction with this population, including in a clinic or community setting.

**Author Contributions:** A.C., D.M. and B.W. researched literature and conceived the study. A.C., B.W. and D.M. were involved in protocol development. All authors contributed to the writing of the manuscript. All authors have read and agreed to the published version of the manuscript.

**Funding:** This study received no external funding.

**Institutional Review Board Statement:** Not applicable.

**Informed Consent Statement:** Not applicable.

**Data Availability Statement:** Not applicable.

**Conflicts of Interest:** The authors declare that they have no conflict of interest.

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