

# Factors Associated with Lack of Viral Suppression among Women with HIV in the United States: An Integrative Review

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## BACKGROUND

- HIV is one of the ten leading causes of death among women ages 25 to 44 years and transgender women are 49 times more likely to be infected with HIV than other groups.
- Antiretroviral therapy (ART) is effective in suppressing the virus, preventing HIV transmission (including mother-to-child transmission), and improving health outcomes.
- Adherence to ART is important in achieving viral suppression, defined as HIV viral load of <200 copies/mL per the Center for Disease Control and Prevention (CDC).
- Women have poorer ART adherence rate, thus, reducing their rates of viral suppression when compared to men.

## PURPOSE

To identify and synthesize peer-reviewed literature describing factors associated with lack of viral suppression among women living with HIV in the United States (U.S.).

## METHODS

The procedure used in this review followed Whittemore and Knafelz methodology for integrative reviews and was reported using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement.

### DATABASES

- Five databases were searched: Cumulative Index to Nursing and Allied Health (CINAHL), PubMed, Embase, Scopus, and PsycINFO.

### KEYWORDS

- Keywords searched (but not limited to): predictors, factors, viral suppression, viral load, female, HIV, and United States.

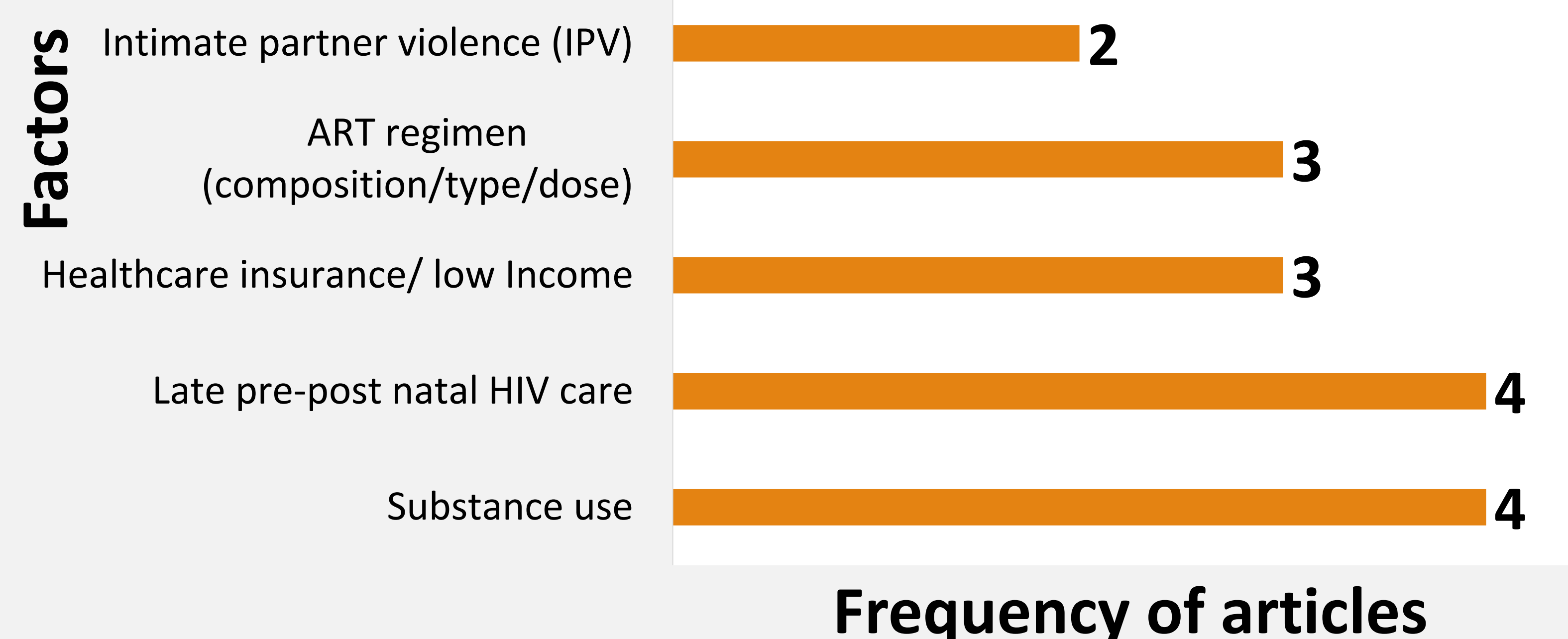
### INCLUSION CRITERIA

- English, peer-reviewed, U.S. publications from 2010 to April 9, 2021, only studies on female adults, and outcome variables include 'viral load' or 'viral suppression.'

### EXCLUSION CRITERIA

- Ongoing studies and studies with jurisdictions outside the U.S.

## Most commonly reported factors significantly associated with viral suppression



## RESULTS n= 15

### DESCRIPTION OF STUDIES

#### DESIGN

- Ten cohort studies, four cross-sectional, and one longitudinal.

#### POPULATION

- Eight studies had all adult women, four included only pregnant women, one transgender women study, one African American women study, and one study focused on women of color (non-Caucasian).

#### DATA SOURCE

- Seven studies recruited women from the Women's Interagency HIV Study (WIHS), three studies assessed patient records through University, hospital and health center database, three studies collected primary data through surveys, one utilized data from the CDC enhanced HIV/AIDS reporting system, and one study used data from eight racial minority programs across the U.S.

#### SAMPLE SIZE

- Ranged from 59 to 1,727

#### VIRAL LOAD CUT OFF

- Six studies reported 200 copies/mL as cut-off, three reported viral loads as detectable or undetectable, one study had two cut-offs (50 copies/mL and 400 copies/mL). The remaining five studies each reported 80 copies/mL, 75 copies/mL, 50 copies/mL, 40 copies/mL, and 20 copies/mL.

### FINDINGS

**BIOLOGICAL-RELATED FACTORS:** Protease inhibitor-based regimen, multiple tablet regimen, race and age.

**BEHAVIORAL OR PSYCHOLOGICAL-RELATED FACTORS:** Substance use and depression.

**SOCIAL-RELATED FACTORS:** Low Income, lack of health insurance, no participation in AIDS Drug Assisted Program (ADAP), Intimate partner violence (IPV) and location (rural region).

#### POPULATION-SPECIFIC FACTORS:

- Pregnant women:** Late engagement in pre-post natal HIV care.
- Transgender women:** Lack of relationships and transphobic experience.

## CONCLUSION

- Most studies reported these factors associated with lack of viral suppression among women: substance use, lack of health insurance, low income, regimen type, IPV, and pre/postnatal HIV care for pregnant women.
- Only one study was interventional, and a paucity of data on transgender women.
- Viral load cut-offs were inconsistent across the 15 studies despite CDC's recommended 200 copies/mL.
- More interventional studies addressing substance use and IPV among HIV-infected women are needed.
- Future HIV research should focus on treatment outcomes in transgender women and women in rural U.S. regions.

## PRISMA MODEL

