Women's Health Issues 25-6 (2015) 711–719

WOMEN'S HEALTH ISSUES
www.whijournal.com

Original article

The Epidemiology of Human Immunodeficiency Virus Infection and Care among Adult and Adolescent Females in the United States, 2008–2012

Ndidi Nwangwu-Ike, MPH [a,*], Angela L. Hernandez, MD, MPH [a], Qian An, PhD, MS [a], Taoying Huang, MS [b], H. Irene Hall, PhD [a]

[a] *Division of HIV/AIDS Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention, Centers for Disease Control and Prevention, Atlanta, Georgia*
[b] *Health Information Technology System Department (HITS), ICF International, Atlanta, Georgia*

Article history: Received 15 April 2015; Received in revised form 1 July 2015; Accepted 2 July 2015

A B S T R A C T

Objective: We sought to determine epidemiological patterns in diagnoses of human immunodeficiency virus (HIV) infection and prevalence among females by age, race/ethnicity and transmission category, and essential steps in the continuum of HIV care.
Methods: Using data from the National HIV Surveillance System, we estimated the number of females aged 13 years or older diagnosed with HIV infection in 2008 through 2012 and living with HIV at the end of 2011 in the United States. We determined percentages of females linked to care, retained in care, and virally suppressed in 18 jurisdictions with complete reporting of CD4 and viral load test results.
Results: From 2008 to 2012, the estimated rate of HIV diagnoses among females decreased from 9.3 to 6.9 per 100,000 (−7.1% per year; 95% confidence interval [CI], −7.9, −6.3). In 2012, the diagnosis rate was highest among Blacks/African Americans (35.7), followed by Hispanics or Latinos (6.4), and Native Hawaiian Other Pacific Islander (5.1), and lowest among Whites (1.8). Most females diagnosed in 2012 were linked to care within 3 months of diagnosis (82.5%). About one-half (52.4%) of females living with HIV in 2011 received ongoing care in 2011 and 44.3% had a suppressed viral load. Viral suppression was lower among American Indian/Alaska Native (29.7%) and Black/African American (41.6%) compared with White females (46.5%). The percentage in care and with viral suppression was lower among younger compared with older females.
Conclusion: HIV diagnoses continue to decrease among females; however, disparities exist in HIV burden and viral suppression. Improvements in care and treatment outcomes are needed for all women with particular emphasis on younger women.

Published by Elsevier Inc. on behalf of the Jacobs Institute of Women's Health.

The epidemiology of human immunodeficiency virus (HIV) infection among females has changed considerably since the first cases of AIDS were reported in the United States. At the beginning of the epidemic, HIV incidence among females increased until the early 1990s, when the incidence decreased slightly and then remained relatively stable until the early 2000s (Centers for Disease Control and Prevention [CDC], 2012; Hall et al., 2008). Since then, the incidence of HIV in adult and adolescent females has decreased, with significant decreases observed during the most recent years (CDC, 2012; Lansky, Hall, & Mermin, 2014). However, Black/African American females (hereafter referred to as Blacks) and Hispanic or Latino females continue to be disproportionately affected by HIV infection (Earnshaw, Bogart, Dovidio, & Williams, 2013; Lansky et al., 2014; McDavid, Li, & Lee, 2006).

In 2010, females accounted for 20% of the estimated number of persons newly infected with HIV (CDC, 2012), and 25% of persons living with an HIV infection in the United States (CDC,

Conflict of interest: None of the authors have a reported financial, consultant, institutional or other conflict of interest in the publication of this manuscript.

Disclaimer: The findings and conclusions in this manuscript are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

* Correspondence to: Ndidi Nwangwu-Ike, MPH, MS E-47, Centers for Disease Control and Prevention, 1600 Clifton Road NE, Atlanta, GA 30329. Phone: 404-639-2050; fax: 404-639-2980.

E-mail address: hhp9@cdc.gov (N. Nwangwu-Ike).

1049-3867/$ - see front matter Published by Elsevier Inc. on behalf of the Jacobs Institute of Women's Health.
http://dx.doi.org/10.1016/j.whi.2015.07.004

2014a). Although the estimated number of new HIV infections among Black females decreased by 21% between 2008 and 2010, the rate among Black adolescent and adult females in 2010 was 20 times greater than the rate for White females, and among Hispanic or Latino females, it was 4.2 times that of White females (CDC, 2012). In 2010, Black females accounted for 61% of females living with a diagnosis of HIV infection (CDC, 2014a).

Persons infected with HIV benefit from early diagnosis, prompt linkage to and retention in care, and treatment to suppress HIV viral load to decrease morbidity and mortality (Bradley et al., 2014; Doshi et al., 2015). However, many females continue to be diagnosed late in the course of the disease. U.S. national surveillance data indicate that one-quarter of females with HIV infection present with stage 3 (AIDS) at the time of their HIV diagnosis (CDC, 2015). In addition, a study of patients in HIV care at a clinic in Alabama showed that missed clinic visits were more common among females than males and that missed clinic visits were associated with a greater likelihood of virologic failure and higher mortality rates in the first year of treatment (Muthulingam, Chin, Hsu, Scheer, & Schwarcz, 2013). Black and Hispanic or Latino females may face additional challenges in accessing care. Among Blacks and Hispanics or Latinos in the United States, lack of medical insurance, poverty and drug use may pose particular barriers (CDC, 2014b; Moore, 2011). Overall, Blacks and Hispanics or Latinos have a lower percentage of viral suppression compared with Whites (CDC, 2015). However, little information is available on potential disparities in these indicators for females.

To broaden the understanding of the epidemiology of HIV among females, we examined recent trends in the number and rate of HIV diagnoses and prevalence for adolescent and adult females using data from the CDC's National HIV Surveillance System (NHSS). We also determined care and treatment outcomes for females, including late diagnosis and linkage to care among females newly diagnosed with HIV and retention in care and viral suppression among females living with HIV. We assessed disease burden and care outcomes overall and examined differences by race/ethnicity, age, and transmission category. This information can help to plan effective interventions and evaluate public health action to further decrease HIV infection among females and disparities in disease burden and care.

Methods

We used data from the CDC's NHSS, a population-based surveillance system, to estimate the number of females newly diagnosed with HIV infection from 2008 through 2012, aged 13 years and older at HIV diagnosis, and the number of females living with a diagnosis of HIV infection at the end of 2011 (prevalence of diagnosed HIV infection), aged 13 years and older in 2011, in the United States. The data included cases reported to CDC through December 2013, by 50 states and the District of Columbia, all of which have had confidential, name-based HIV infection reporting since 2008.

The numbers and percentages of HIV diagnoses among adolescent and adult females and prevalence were calculated by year, race/ethnicity, age, transmission category, region of residence at diagnosis (i.e., Northeast, Midwest, South, and West), and population density of area of residence at diagnosis (metropolitan statistical area [MSA]). The numbers of HIV diagnoses were statistically adjusted for reporting delay but not for incomplete reporting (Song & Green, 2012). Multiple imputation was used to assign a transmission category to those cases missing risk information (Harrison, Kajese, Hall, & Song, 2008; Song & Green, 2012). The number of females living with a diagnosis of HIV infection was further adjusted to account for the delay in reporting of deaths among females with HIV. Prevalence is reported for year-end 2011 to allow at least 18 months for deaths to be reported. Annual rates of HIV diagnosis and prevalence per 100,000 females were calculated by race/ethnicity, age group, region of residence at diagnosis, and MSA based on postcensal estimates of the female population from the U.S. Census Bureau (U.S Census Bureau Population Projections Branch, 2012). We analyzed trends in the diagnosis of HIV infection using Poisson regression to calculate the estimated annual percentage change in the annual number of diagnoses, by race/ethnicity, age, transmission category, region at diagnosis, and MSA. The significance of a trend was determined by whether the 95% confidence interval for the estimated annual percentage change included zero.

A diagnosis of HIV was considered late if disease was classified as stage 3 (AIDS) within 3 months after the date of HIV diagnosis. Stage 3 (AIDS) classification is based on documentation of an AIDS-defining condition or either a CD4 count of less than 200 cells/μL or a CD4 percentage of total lymphocytes of less than 14% when count was not available.

Although all states and the District of Columbia report diagnoses of HIV infection to the NHSS, not all jurisdictions have had laws or regulations for the reporting of all laboratory values of CD4 and viral load tests results or reported all information to NHSS. Eighteen jurisdictions (California, District of Columbia, Hawaii, Illinois Indiana, Iowa, Louisiana, Maryland, Michigan, Missouri, New Hampshire, New York, North Dakota, South Carolina, Texas, Utah, West Virginia, and Wyoming) met the criteria for the collection and reporting of all CD4 and viral load test results, which are needed to determine linkage to and retention in HIV care and viral suppression. Linkage to care was calculated among females with new HIV diagnosis during 2012 that resided in any of the 18 jurisdictions at diagnosis and defined as having one or more CD4 or viral load tests within 3 months after diagnosis. Retention in care and viral suppression were assessed among females with HIV diagnosed by December 31, 2010, who resided in any of the 18 jurisdictions at the time of diagnosis, and were alive on December 31, 2011 (females living with diagnosed HIV). Retention in care was defined as two or more CD4 or viral load tests results at least 3 months apart during 2011. Viral suppression was defined as a viral load test value of less than 200 copies/mL on the most recent viral load test during 2011. Approximately 25% of cases were reported without risk information; for these cases, risk factor was assigned through multiple imputation (Harrison et al., 2008).

Results

In 2012, an estimated 9,150 females were newly diagnosed with HIV infection (Table 1). Most diagnoses were among Blacks (65.1%), females whose HIV infections were attributed to heterosexual contact (85.8%), females living in the South region (56.1%), and those residing in MSAs with greater than 500,000 population at the time of HIV diagnosis (80.3%). The rate of diagnoses of HIV infection among Black females (35.7 per 100,000 population) was almost 20 times the rate of White females (1.8 per 100,000 population) and 5 times the rate of Hispanic or Latino females (6.4 per 100,000 population). Females aged 25 to 44 had the highest rates of diagnoses (11.2 per 100,000 population for those aged 25 to 34 and 10.8 per 100,000 population

Download English Version:

https://daneshyari.com/en/article/1093004

Download Persian Version:

https://daneshyari.com/article/1093004

Daneshyari.com