

COVID-19 Comprehensive Review of Chlamydia and Gonorrhea Cases among Men and Women

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ARTICLE INFO

Article history:

Received: 14 September 2022;

Received in revised form:
14 October 2022;

Accepted: 25 October 2022;

Keywords

COVID-19,
Chlamydia,
Gonorrhea.

ABSTRACT

The COVID-19 pandemic has shown an impact on sexually transmitted infections. The research aims to understand an overview of CDC's STI surveillance data for 2020 that can provide a general understanding and a comprehensive review of patterns of Chlamydia and Gonorrhea infections among men and women. The study conducted an in-depth qualitative research analysis of the CDC's STI surveillance data for 2020. The study analyzes particular research questions. What is the difference between reported cases of Chlamydia and Gonorrhea among men and women? How does sexual orientation affect reported cases of Chlamydia and Gonorrhea? What demographics are associated with Chlamydia and Gonorrhea cases? The research analyzes the number of cases of Chlamydia and Gonorrhea infections among men and women, including sexual orientation, age, ethnicity, and reported cases in healthcare centers. The results of the CDC's STI surveillance data of 2020 have determined that men have a higher number of cases in both infections, and MSM have a higher number of cases in the sexual orientation category. The result differed based on ethnicity, in which females had a significant increase in chlamydia cases compared to men while men had an increased number of gonorrhea cases. African American men and women have shown the greatest number of cases. Non-Hispanic/Pacific Islanders men have a higher number of chlamydia cases compared to women. Overall, the transmission of gonorrhea is higher in men, while chlamydia is seen most in women. Sexually transmitted infections such as gonorrhea and chlamydia may present with unseen consequences. Gender, age, and ethnicity play a vital role in our society in improving health conditions. Limitations may occur within the study. The results may show biases based on the lack of data submission due to restrictions. The inconsistency of recording data could occur based on social distancing guidelines, quarantining, and lack of resources available during the pandemic and guidelines that significantly affect the public. Public health officials utilize the data to determine high prevalence areas to improve policies and guidelines that significantly affect the public.

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Introduction

Sexually transmitted infections (STIs) such as gonorrhea, chlamydia, herpes, hepatitis, HPV, HIV, or AIDS are common infections worldwide^[5]. Sexually transmitted infection is among the most commonly reported illness among adults. The COVID-19 pandemic has shown an impact on sexually transmitted infections. It is estimated that More than 1 million STIs are acquired every day worldwide, the majority of which are asymptomatic^[5]. Sexually transmitted infections have the potential to create complications that can provide you with devastating consequences. Similar studies have shown Untreated chlamydia and gonorrhea infections can lead to adverse reproductive sequelae, such as pelvic inflammatory disease, which is a major cause of chronic pelvic pain, ectopic pregnancy, and infertility^[2].

According to the Centers for Disease Control and Prevention (CDC), the effects of the pandemic have shown results of underreporting of infections and possibly increased

STI transmission^[1]. However, the full impact of sexually transmitted infections during the pandemic is not fully understood. The public health departments during the pandemic have been in control of STI and COVID-19. Chlamydia and Gonorrhea infections co-sides with each other and are easier to contact through sexual contact. These infections can be asymptomatic and delay diagnostic testing. The stigma of society is another risk factor for delayed testing.

COVID-19 introduced an important role in public health in understanding the potential spread of diseases and implementing safer guidelines to control other risk factors. The social distancing guidelines have shown measures may have influenced sexual behaviors by limiting sexual activity or the number of new sexual partners, thus reducing the spread of STDs^[1]. The fear of being exposed to COVID-19 and limited access to public transportation also may have affected sexual behaviors and led to people with STD symptoms delaying care.

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The research aims to understand an overview of CDC's STI surveillance data for 2020 that can provide a general understanding and a comprehensive review of patterns of Chlamydia and Gonorrhea infections among adults.

Method

The study conducted an in-depth qualitative research analysis of the CDC's STI surveillance data for 2020. The data set provides demographics such as age, ethnicity, gender, sexual orientation, and diagnostic testing in healthcare facilities which are essential for the comprehensive review. I propose research questions, What is the difference between reported cases of Chlamydia and Gonorrhea among men and women? How does sexual orientation affect reported cases of Chlamydia and Gonorrhea? What demographics are associated with Chlamydia and Gonorrhea cases? The research analyzes the number of cases of Chlamydia and Gonorrhea infections among men and women, including sexual orientation, age, ethnicity, and reported cases in health care centers.

All Chlamydia and Gonorrhea cases are evaluated throughout 2020. A particular age of 15 to 44 and above was analyzed in the United States. Positive results data is submitted to the CDC by healthcare centers and facilities. The sexual orientation of men and women was considered to analyze the number of cases reported in healthcare centers. The demographics are used to conduct a comparison review among both infections.

Results

The research question What is the difference between reported cases of Chlamydia and Gonorrhea among men and women? Figure 1 Represents 2020 Chlamydia Cases Among Men and Women. The highest reported cases are in females (3729.6) within the 20-24 age group. Males aged 20-24 reported (1627.3) a higher number of cases than teenagers (846.3) in the 15-19 age group. In contrast, the second highest cases (2857.9) are reported among teens ages 15-17 in the United States. In adult females, the cases of chlamydia significantly begin to decline; however, cases in the 25-29 age group are slightly higher (1548) than (611.7) those from 30 to 44.

(Figure 2) 2020 Gonorrhea Cases Among Men and Women. The graph shows the pattern of diagnosis of gonorrhea among men and women. Overall, gonorrhea cases are substantially lower than chlamydia. Among men and women, it is women that have shown an increased number of gonorrhea cases. The diagnostic analysis of cases based on age has shown women have double the number of gonorrhea diagnoses compared to men. Males ages 15-19 have 369 cases, while women have presented with 616.4 cases of gonorrhea. Ages 20-24 have a slight difference among men and women cases. Males aged 20-24 presented 821.5 cases, while women presented 866.9 cases of gonorrhea. Figure 2. shows an overall plummeted number of cases in both genders. However, males have shown an increase in diagnosis between men and women. The lowest infection cases are seen in mid-adulthood ages 35-44.

(Figure 3) Percentage of Positive Chlamydia Cases By Ages and Sex Partners represents cases based on sexual orientation, such as Men who have sex with men (MSM), Men who have sex with women (MSW), and a separate category for women. The research further compared sexual orientation with ages 15-44. A positive number of cases are reported through health centers such as clinics, urgent care, and emergency rooms throughout the United States. The data statistics show that overall, MSM 16.2 % have a higher rate

of testing positive compared to MSW 15.2% and women 10.7%. Age group under 19 percentage with the highest number of positive cases compared to any other age group. MSW presented the highest percentage (35.2%) of positive cases in the age group under 19, while women, in general, had the second highest (27.6%) percentage, and MSM (26.6%) scored the lowest. Age groups 20-24 (25.1%) have shown MSW with a higher number of positive cases in comparison to MSM (19.6) which is slightly higher (16.7%) than positive cases among women. Positive cases among 25-40 have decreased compared to other age groups; however, positive cases related to MSM orientation have increased in ages 30-40.

(Figure 4) Percentage of Positive Gonorrhea Cases By Ages and Sex Partners have shown overall the highest positive cases among MSM at 22.4%. Other sexual orientations of MSW and Women have shown a decreased percentage of positive cases. MSM with age groups under 19 to 29 has shown a slight increase rate of 24 to 25.3% of positive cases. Ages 25-39 have shown a slight decline in the percentage of 25 to 23.3% of the positive number of cases among MSM. Age 40 has shown a major decline of 11.5% of positive cases among MSM. The study has determined that MSW has shown a declining rate in positive cases of gonorrhea in ages under 19 till 39; however, positive cases showed a slight incline among 40-year-olds. Women showed the lowest rate among all age groups.

(Figure 5) Ethnicity-Related Chlamydia Cases Among Men and Women In 2022 demonstrates ethnicity chlamydia-related cases with a gender comparison. African American men have shown the highest number, 883.7 chlamydia cases. Asian ethnicity is divided into two categories Asian Americans and Asians. Asian Americans have shown the second highest number, 315.8 of reported cases, while Asians (either immigrants or non-us residents) have shown 72 cases, the lowest number of reported cases. Hispanic and Latinos showed 198 cases. Non-Hispanic/Pacific Islanders (NH/PI) have shown the third highest 300.6 cases of chlamydia. The Caucasian population presented with 113.2 cases, and multiracial ethnicity has shown 167.2 reported cases.

African American women have 1270.1 cases, the highest number of reported cases of chlamydia. Asian women overall have a significantly higher number of cases compared to men. Asian American women have shown the second highest cases, 899.7, and non-Hispanic/pacific islanders reported 830 cases of chlamydia. Asian women (either immigrants or non-us residents) have 101.5 reported cases. Hispanic and Latinos women showed 427.1 cases. In comparison to men and women, it is the females that have a higher case of chlamydia based on ethnicity.

(Figure 6) Ethnicity-Related Gonorrhea Cases Among Men and Women In 2022 provides an analysis of gender and ethnicity correlation of Gonorrhea Cases. Overall, gonorrhea cases are significantly higher in men than women. The highest number of cases are seen in African Americans, 819.5 cases. The second highest number of cases is seen in Asian Americans, with 272.3 reported cases. Hispanic and Latinos showed 144.8 cases, and Non-Hispanic/Pacific Islanders showed a minor increase of 195.8 cases compared to the Hispanic and Latino population. Multiracial ethnicity has shown 158.9 cases while Caucasians 77.4 were reported, and Asian 72 cases showed the lowest number of reported cases.

African American women have the highest 517.1 reported cases. Asian American women have shown the second highest 404.1 number of gonorrhea cases. Non-

Hispanic/Pacific Islanders reported 186.7 cases, while Hispanics and Latinos showed a 96.4 that, which is a substantial decline in cases. Multiracial ethnicity showed 132.1 number of reported cases. Caucasians have the second lowest, 71.7 cases. Asian women have 16.8, which shows the lowest number of reported cases.

The results of the CDC's STI surveillance data of 2020 have determined that men have a higher number of cases in both infections, and MSM have a higher number of cases than sexual orientation. The result differed based on ethnicity, in which females had a significant increase in chlamydia cases compared to men while men had an increased number of gonorrhea cases. African American men and women have shown the greatest number of cases. Non-Hispanic/Pacific Islanders men have a higher number of chlamydia cases compared to women. Overall, the transmission of gonorrhea is higher in men, while chlamydia is seen most in women.

Conclusion

Sexually transmitted infections such as gonorrhea, chlamydia, herpes, hepatitis, HPV, HIV, or AIDS are common worldwide [5]. Sexually transmitted infections are caused by various bacteria, viruses, and parasites communicated from one human being to another, primarily

by vaginal, anal, or oral sexual contact [4]. Sexually transmitted infections can present asymptotically. Individuals living with sexually transmitted infections can be unaware of their health status for years. Sexual risk behaviors, including condomless anal sex, condomless vaginal sex, number of partners, anonymous partners, and substances, can increase the risk of infections [3].

Sexually transmitted infections such as gonorrhea and chlamydia may present with unseen consequences. Gender, age, and ethnicity play a vital role in our society in improving health conditions. Limitations may occur within the study. The inconsistency of recording data could occur based on social distancing guidelines, quarantining, and lack of resources available during the pandemic. The fear of exposure to COVID could potentially prevent the public from seeking proper medical attention. Many jurisdictions redirected staff from routine sexually transmitted diseases surveillance and control efforts to COVID-19 activities [1]. These risk factors could create inconsistency in data collection in health care centers. Public health officials utilize the data to determine high prevalence areas to improve policies and guidelines that significantly affect the public.

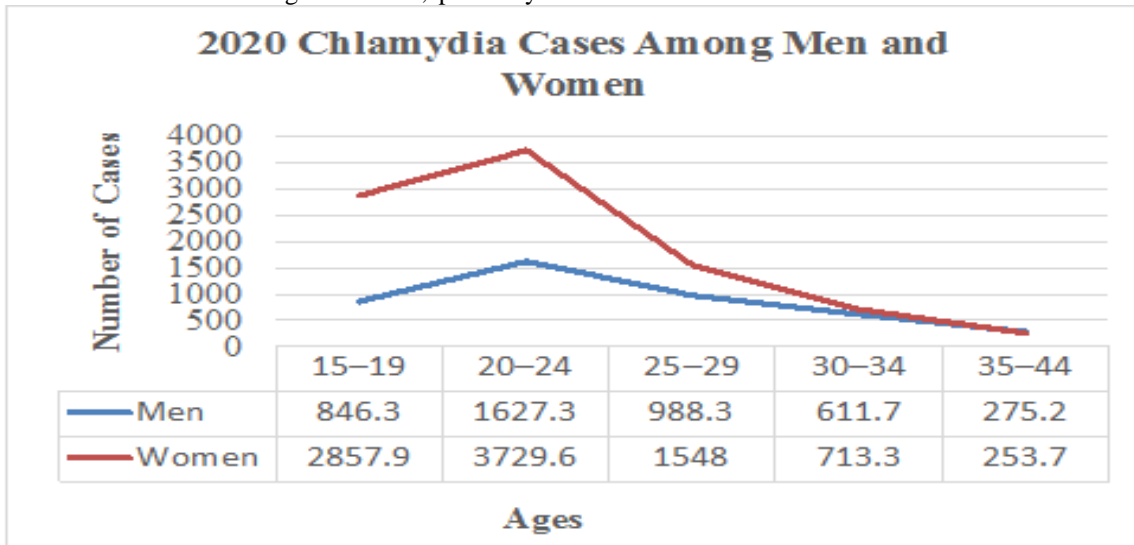


Figure 1. 2020 Chlamydia Cases among Men and Women

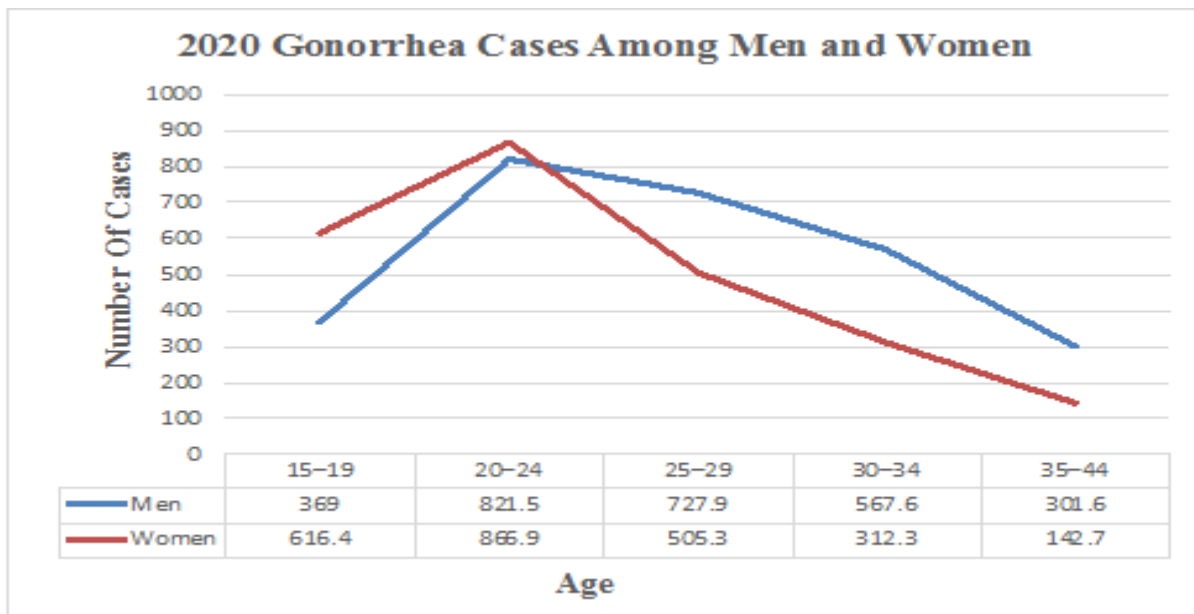


Figure 2. 2020 Gonorrhea Cases among Men and Women

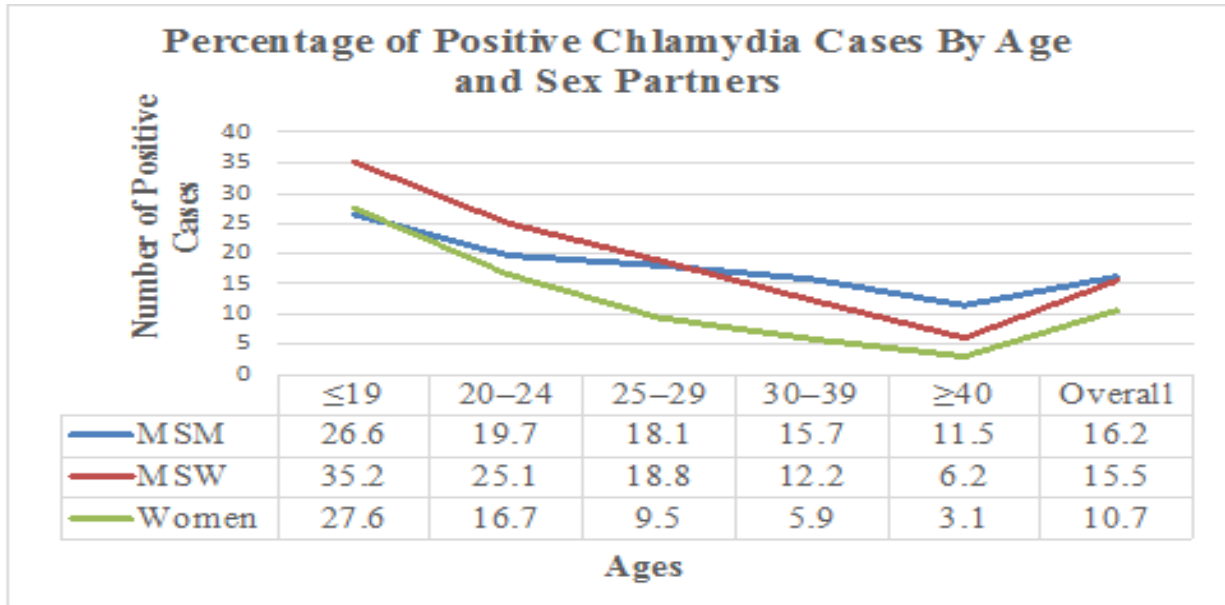


Figure 3. Percentage of Positive Chlamydia Cases by Ages and Sex Partners

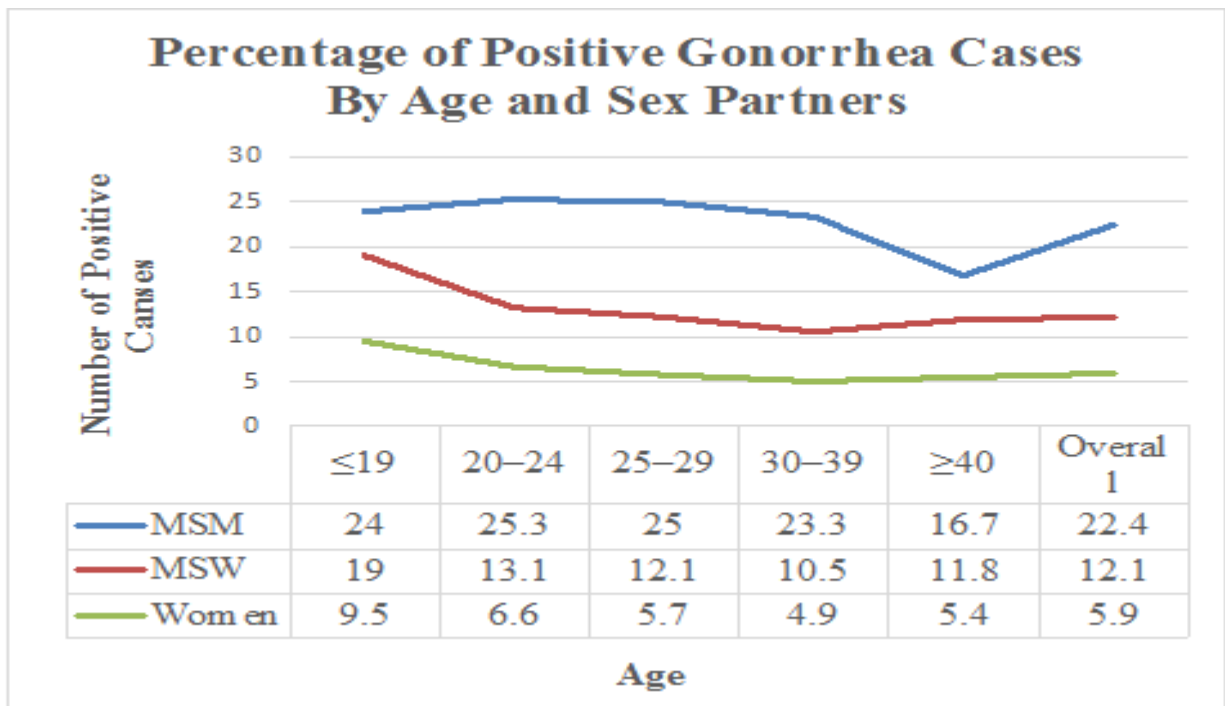


Figure 4. Percentage of Positive Gonorrhea Cases by Ages and Sex Partners

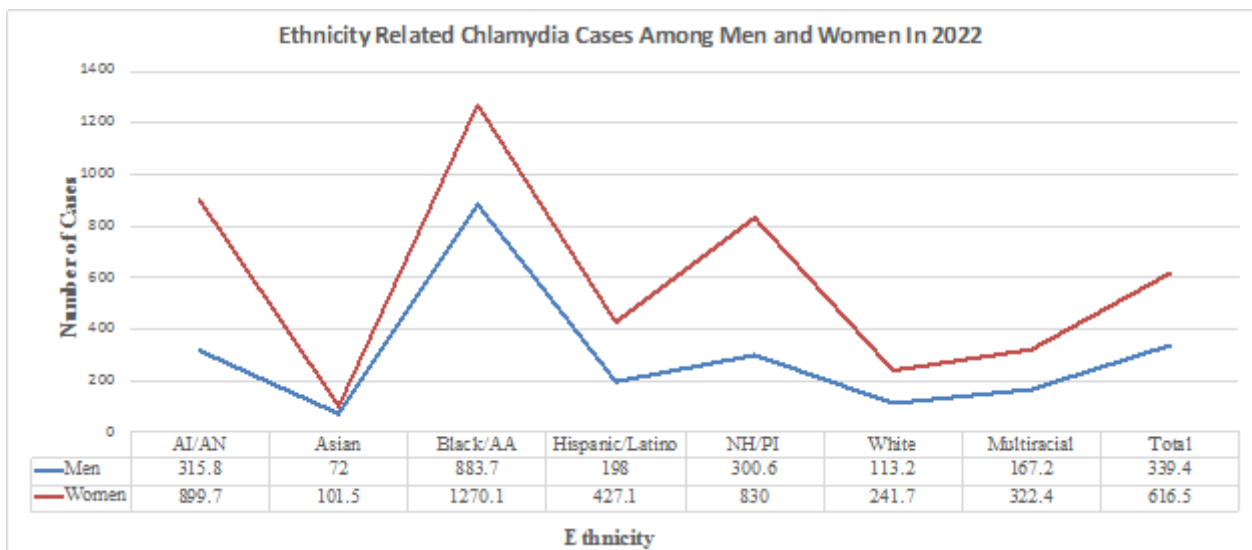


Figure 5. Ethnicity-Related Chlamydia Cases among Men and Women in 2022

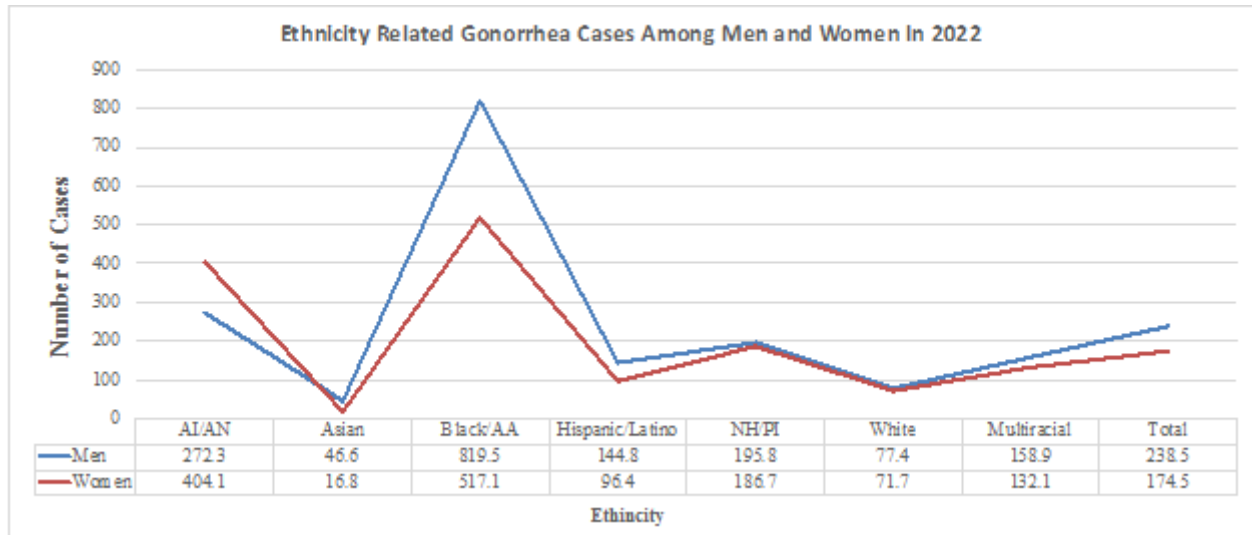


Figure 6. Ethnicity-Related Gonorrhea Cases among Men and Women in 2022

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