



## Introduction

PrEP (Pre-Exposure Prophylaxis) is a once a day medication used to reduce the chances of acquiring HIV. There are two brands of medications used for PrEP available in the U.S. market, lowering the incidence of HIV to historic proportions (Chen, Snowden, McFarland, & Raymond, 2016). With the use of these medications, there has been an enormous reduction in the HIV epidemic, but there is no protection against sexually transmitted infections (STI), like chlamydia, gonorrhea, syphilis, and herpes. The dilemma is that with PrEP use, there is a decline in safe sex practices, like condom use, in these individuals (Oldenburg, 2018), which increases the incidence of sexually transmitted infections. Most STIs can be treated with antibiotics, but drug-resistant organisms are continuously emerging, and ways of reducing infection should be explored.

## Methods

An extensive literature review was performed using databases, including CINAHL, EBSCO, ProQuest, Medline, PubMed, and the Cochrane Library. The search criteria used were on the topics of PrEP and sexually transmitted infections. Key terms used were PrEP, Pre-exposure prophylaxis, sexually transmitted diseases, and sexually transmitted infections. A total of 174 articles were found from medical or nursing journals. Eight scholarly and peer-reviewed articles that were full text, published in the English language, and less than 5-years old were used. Included was a meta-analysis, a clinical trial, four longitudinal studies, and two reviews. All publications were reviewed against the Beall's List of Predatory Journals and Publishers list.

## Results

- Since the release of PrEP, there has been a reduction in condom use among PrEP users (Chen et al., 2016).
- The declining use of condom can be due to a reduced anxiety about HIV exposure, increasing the risk of STIs (Oldenburg, 2018).
- In one RCT, 50% of participants acquired an STI at follow-up, after starting PrEP (Scott & Klausner, 2016).
- Chlamydia was found to have the highest incidence after the initiation of PrEP (Traeger, 2018).
- Half of PrEP users contracted an STI in higher proportion than prior PrEP use (Montano, 2019).
- Incidence of gonorrhea was 25 times higher among PrEP users than non-users (Cohen, Council, & Chen, 2019)
- One clinical trial found a reduction in chlamydia and syphilis with the use of doxycycline as a prophylaxis post-sexual encounter (Molina et al., 2018).

## Discussion

HIV infection no longer has the stigma of death. It is likely that PrEP users feel that STIs are not harmful to the body, when chronic debilitating conditions can occur from these infections. With more and more drug resistances developing, could there become a day, that antibiotics will not cure STIs, not to mention there is no cure for viral infections? Could more intense education on the transmission of STIs in PrEP users reduce this risk, or can this increase be associated with more screening in these patients?

## Conclusions

Condom use has always been the gold standard against HIV and STIs. In individuals taking PrEP, there has been a decline in the use of condoms and a rise in risk-taking behaviors (unprotected sex). The evidence has shown that in PrEP users, there is an increased risk of STIs, due to the reduced anxiety of acquiring HIV. Prophylactic antibiotic use to prevent infection is an option, but with drug resistance organisms emerging, antibiotics should only be used for active infection; in addition, it does not protect from all STIs. Patients using PrEP should be informed of this risk, and education on safe sex practices and full STI screening need to be performed at every visit.

## Recommendations

- Intense education on the prevention of sexually transmitted infections before and during PrEP renewal visits.
- Full STI screening should be performed at every PrEP renewal visit.
- Additional research on STI prevention and behavioral actions in this population should be performed.



## References

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