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The Significance of Pre and Post exposure Prophylaxis in Disease Control and Prevention

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DESCRIPTION

In the United States of America, Human Immunodeficiency Virus (HIV) is a major public health concern. Presently, an estimated 1.1 million people are infected with HIV. Despite a 4.3% decrease in new HIV infections from 41,942 in 2012 to 40,534 in 2016, improvement has been unequal among different groups and geographic places in the United States of America and six dependent countries. Almost 70% of new diagnoses in 2016 occurred among males who had sex with men, and they were disproportionately concentrated among minorities. The South had the largest proportion (51%) and rate (16.8 diagnoses per 100,000 people) of new HIV infections. Truvada, an antiviral drug, is widely used for Pre-Exposure Prophylaxis (PrEP) and is extremely successful in avoiding HIV infections. PrEP therapy comprises of taking Tenofovir Disoproxil Fumarate (TDF) plus another drug, Emtricitabine (FTC), on a regular basis.

Medication-based PrEP has been found to lower the risk of HIV infection through sex by more than 90% and by more than 70% among persons who inject drugs when taken regularly and appropriately by HIV-negative individuals at risk of acquiring HIV. Nevertheless, the deployment of these highly successful treatments by those who can benefit the most has been slow. Increasing PrEP availability to more people at high risk of contracting HIV is a significant opportunity to help end the HIV epidemic.

The HIV pandemic continues to put a strain on the health-care system. Although the yearly incidence of new infections is decreasing, health inequalities persist, and the majority of new infections continue to be clustered in distinct racial, ethnic, and minority groups. Pre-Exposure Prophylaxis (PrEP), which entails persons at high risk of contracting HIV using long-term drugs to prevent virus acquisition, is critical to avoiding new HIV infections. Moreover, novel PrEP drugs presently under development are discussed, as well as Treatment as Prevention (TasP) and Post-Exposure Prophylaxis (PEP). Currently, four PrEP drugs are available: co-formulated Emtricitabine/Tenofovir Disoproxil

Fumarate (FTC/TDF) or Emtricitabine/Tenofovir Alafenamide (FTC/TAF) oral alternatives; injectable Long-Acting Cabotegravir (CAB-LA); and Vaginal Ring Dapivirine (DPV-VR). Due to a paucity of data, FTC/TAF is not presently recommended for people at risk of HIV through vaginal intercourse, however trials are underway.

The World Health Organization has approved DPV-VR for use in Zimbabwe and South Africa, but it is not currently accessible in the United States of America. PrEP is often quite efficient at preventing HIV infection in high-risk groups. Finding optimum PrEP regimens in various patient populations is a challenging task that must take into account patient-specific characteristics as well as pharmaceutical cost and availability constraints. Finally, physicians should take specific patient preferences into account when it comes to prevention in order to increase access, retention in treatment, and adherence. The Health Resources and Services Administration (HRSA), for example, has announced intentions to allocate Health Center resources to expanding PrEP treatments to selected health centres in counties where more than half of all new infections occur.

According to the Centers for Disease Control and Prevention (CDC), 1.1 million HIV-negative persons had indications for PrEP in 2015 and might have benefited from PrEP. Prior studies estimated the number of PrEP patients, are known about PrEP uptake at the Metropolitan Statistical Area (MSA) level, prescriber characteristics, or patient and insurance payments for PrEP.