



# Pre-Exposure Prophylaxis for HIV Infection, is it Working?



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## Opinion

HIV/AIDS has been posing problems to scientists and usual human beings around the world for almost four decades. The history of HIV/AIDS (which started in the late 70s) is an amazing and interesting one for several reasons. There have been many steps taken to control the condition; many risk groups identified and many prevention measures established. However, until now there is no vaccines, no cure but just a couple of ways to control over the devastating affects that the condition can have. In many places across the globe there have been so many movements to force government officials to take more responsibilities in treating with more respect, fairness and seriousness people who are infected with HIV.

For instance in the United States, in the early years of HIV/AIDS control, within government and public health institutions, the response to HIV/AIDS was shaped by the ascribed identity characteristics of those most affected, characteristics that necessarily diminished the status of the condition and its sufferers [1]. The early epidemiology of HIV/AIDS was dominated by "lifestyle" hypotheses, which, despite the incidents of heterosexual AIDS and inconsistent patterns of drug use among gay patients focused excessively on gay sexuality and popular club drugs [1].

For those who were aware of HIV/AIDS in the United States during the early 1980s, the cognitive dissonance was reminiscent of "The Invasion of the Body Snatcher". All around them, friends and loved ones were being struck down without warning or apparent cause. But officially, as far as their doctors or newspapers were reporting, nothing was happening. There were no visible public health mobilizations, no widespread warnings, and no apparent concern [1].

In that era, doctors who attempted to treat and learn from AIDS patients sometimes faced pressure to stop doing so because of fear their hospital would gain a welcoming reputation among sick, gay men [1]. During this period HIV/AIDS work was described as a special interest, not a "legitimate area of medical inquiry" [2]. Also the language used to discuss HIV/AIDS outside of community settings was one of the most striking aspects of the marginalizing

process. In 1983, the Center for Disease Control and Prevention (CDC) identified population categories in which HIV/AIDS cases seemed, without explanation, to be clustering and labeled them as "risk groups" [3]. Soon members of these groups were popularly termed the 'Four-H Club', a shorthand reference to homosexuals, Haitians, hemophiliacs and heroin users [4].

Despite the qualifications found in the CDC report, no idea was given about what percentage of a population was or could be "risk group". With its gratuitous use of terms like "illicit" and "abusers", the article implied moral culpability without explicitly discussing causality. While moral culpability was being discussed and the blame being placed on the sufferers, people were dying by the millions across the planet. Treatment was not clearly understood initially and it was very expensive. It started with monotherapy with Zidovudine (AZT), then bi-therapy and then tri-therapy with two nucleoside reverse transcriptase inhibitors (NRTI) and one non-nucleoside reverse transcriptase inhibitors (NNRTI).

Besides the tri-therapy that is available for treating the condition, nowadays there are more prevention measures that can be used to reduce the risk of getting the infection. Lately more attention has been paid to: a) post exposure prophylaxis (PEP), which is a combination of drugs that can be taken up to 72 hours after exposure, b) pre-exposure prophylaxis (PrEP) which is also a combination of drugs that can be taken before exposure. For PEP they usually prescribe tri-therapy to diminish the risk of getting the infection whereas for PrEP it is a bi-therapy with emtricitabine and tenofovir known on the brand name of truvada.

In July 2012, in combination with safer sexual practices, the US Food and Drug Administration approved emtricitabine 200mg and tenofovir disoproxil fumarate 300mg (Truvada®) as a once-daily pill for HIV PrEP in high-risk adults. It is worth pointing out that truvada was previously approved for the treatment of HIV/AIDS back in 2004. In 2014, the Center for Disease Control and Prevention issued comprehensive clinical practice guidelines recommending PrEP as a safe and effective option for men who have sex with men (MSM), adult injection drug users, and heterosexual adults at high risk for HIV [5]. However despite the fact that PrEP is approved

as a powerful HIV prevention tool, only about 10% to 15% of the patients who would benefit from PrEP receive it.

At the ID Week (an annual meeting or conference where infectious disease experts meet to discuss challenges, share experience and develop collaboration) in 2017 there were many discussions about PrEP. The experts at the conference discussed how to facilitate the adoption of PrEP by health professionals, how to overcome the barriers associated with PrEP distribution in clinical facilities to patients who need it. It is clear that based on many research studies conducted, PrEP does work. It's very effective in the prevention of HIV infection in those at greatest risk (those who had sexually transmitted infection [STI], those with partners who are HIV positive with high viral load and those who engage in anal sex without condoms with HIV positive partner or partners with STI) [6]. However as stated above many health professionals are still skeptical about PrEP and only a very low percentage of the patients who could benefit from it get it.

It was found out that PrEP can: decrease anxiety, increase communication between couples, increase disclosure, increase trust, increase self efficacy, increase sexual pleasure and increase intimacy [7]. PrEP is very safe, highly effective and well tolerated to patients who are adherent. Despite some cases of transient gastro intestinal symptoms, and non-progressive decline in renal functions reported. We can say confidently that the benefits largely outweigh the risks. There are many barriers to PrEP utilization by the patients who need it the most. One of them is the fact that those patients are not educated on the benefits of PrEP. They don't know

that it is effective and safe. Some of them might not even know that it is covered by health insurance such as Medicaid in the US.

There are also some barriers associated with the prescribers themselves. Infectious disease physicians can take history about sexual activities of their patients and prescribe PrEP in case they think that it is needed but the bottle neck is most of the patients who need PrEP would present to the Emergency Department where they don't have access to infectious disease physicians who would adopt the approach of taking a full sexual activity history and prescribe PrEP if necessary. Therefore more education of providers who are seeing patients who might benefit from PrEP is needed so that they can feel comfortable to prescribe it or, if not; refer the patient to the appropriate infectious disease experts.

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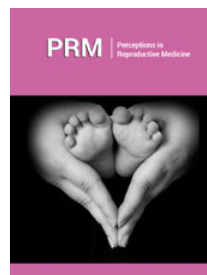
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