Rapid Review #75: December 2013

Rapid Response Service

Gay men's attitudes to and perceptions of pre-exposure prophylaxis (PrEP) and post-exposure prophylaxis (PEP)

Question

What are gay men's attitudes to and perceptions of pre-exposure prophylaxis (PrEP) and post-exposure prophylaxis (PEP)?

Key Take-Home Messages

- There were fewer studies published on the potential use of non-occupational PEP (nPEP) among men who have sex with men than those on PrEP.
- Although 47% to 64% of men who have sex with men were aware of nPEP, fewer than 5% had used nPEP (1-3).
- The proportion of men who have sex with men aware of PrEP ranged from 13% to 64% (2;4-8), but reported use of PrEP was much lower: from 0.4% to 2% (4-6;8). Men were more likely to be aware of PrEP if they: had a high numbers of sexual partners; and had a care provider who was aware of their sexual behaviours (2;6).
- The proportion of men who have sex with men who were interested in using PrEP ranged from 40% to 79% (4;5;7-10). Men were more likely to be interested in using PrEP if they were involved in high-risk activities (5-8;11-13), such as greater numbers of sexual partners and participating in unprotected anal sex with casual partners.
- The primary concern about using PrEP was a false sense of security, which could lead to increased risk compensation (5;12;14), particularly through decreased use of condoms during intercourse. Other perceived challenges to PrEP adoption included cost and accessibility of the medication, side effects, and adverse effects of irregular PrEP use (14).

The Issue and Why It's Important

Antiretroviral therapy has greatly enhanced the quality of life of people living with HIV. Recently, more attention is being paid to the use of antiretroviral medicines by people who are HIV-negative as a way to prevent HIV infection – including non-occupational post-exposure prophylaxis (nPEP) and pre-exposure prophylaxis (PrEP) (1).

OHTN

EVIDENCE INTO ACTION

The OHTN Rapid Response Service offers HIV/AIDS programs and services in Ontario quick access to research evidence to help inform decision making, service delivery and advocacy. In response to a question from the field, the Rapid Response Team reviews the scientific and grey literature, consults with experts, and prepares a brief fact sheet summarizing the current evidence and its implications for policy and practice.

Suggested Citation:

Rapid Response Service. *Rapid Response: Gay men's attitudes to and perceptions of pre-exposure prophylaxis (PrEP) and post-exposure prophylaxis (PEP)* Toronto, ON: Ontario HIV Treatment Network; December 2013.

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PEP is a combination of antiretroviral medicines that an HIV-negative person exposed to the virus takes within 72 hours of exposure and for at least 28 days (1). PEP was originally prescribed after an occupational needle-stick injury (15). It has also been recommended to prevent HIV infection in cases of high-risk sexual exposure and injection drug use, although its efficacy in humans remains uncertain (15).

Like PEP, PrEP is antiretroviral medication taken by an HIV-negative person, but it is taken daily to reduce the risk of HIV infection in case of HIV exposure (16). Informal PrEP use has been reported within gay populations living in cities across the United States (7). However, there has been renewed interest in PrEP given the 2010 double-blind randomized controlled 'iPrEx' trial which demonstrated that a once-daily oral tablet containing a combination of antiretroviral medicines led to 44% fewer cases of HIV-infections among men who have sex with men and transgendered women, compared to those taking a placebo (16).

While the iPrEx results offered a promising and novel approach to HIV prevention, there are still challenges related to: PrEP use and preferences, costs for both the individual and the health care system, and a false sense of security from PrEP adoption (17). Given the possibility of nPEP and PrEP regimens becoming more widely available, it is important to understand gay men's attitudes to these approaches, and to identify strategies to mitigate any anticipated challenges.

What We Found

The body of literature on gay men's attitudes to nPEP was less developed than the literature on PrEP. This summary includes one article on nPEP, thirteen articles on PrEP and two articles on both nPEP and PrEP.

Non-Occupational Post Exposure Prophylaxis (nPEP)

In a study of 1819 HIV-negative gay and bisexual men from California, Liu et al (1) found 47% of respondents had previously heard about PEP. Awareness was associated with being Caucasian and over age 25, having an income over $100,000, and having sought care from a medical provider in the last year (1). The study also found that men who reported unprotected anal sex or sex under the influence of a drug in the past six months were more likely to have heard of nPEP than those who did not (1). A similar study among gay men in Australia by Zlabotska et al (3) found that awareness of nPEP increased from 23% in 2002 to 64% in 2010. However, despite moderate levels of awareness, the use of nPEP was much lower (less than 5%) (1-3). Men were more likely to have used nPEP when they were in an HIV serodiscordant relationship, had high numbers of sex partners, and engaged in anal intercourse with casual partners (3).

Pre-Exposure Prophylaxsis (PrEP)

Awareness and Use of PrEP

Among studies reviewed, gay men's awareness of PrEP ranged from 13% to 66% (2;4-8). Krakower et al's study of men who have sex with men that assessed PrEP awareness, interest and use before and after the iPrEx trial (6) found that being aware of PrEP was associated with identifying as bisexual (as opposed to gay) and awareness or prior use of nPEP. Another study (2) found that awareness was

associated with having high numbers of sexual partners and a care provider who was aware of their sexual practices. Men who were aware of PrEP commonly heard about it through news articles, magazines, TV, radio, the Internet, friends or acquaintances, and health care providers (1;5;10). The reported use of PrEP was much rarer than awareness, ranging from 0.4% to 2% (4-6;8).

Interest in PrEP

Gay men's interest in and willingness to use PrEP ranged from 40% to 74% (4;5;7-10), except in an Australian study that found only 28% of gay men were interested in using PrEP (12). The US-based study by Krakower et al (6) found that willingness to use PrEP remained virtually the same before and after publications of the iPrEX study: changing slightly from 76% to 79%. Studies by Lorente et al in France (13) and Poyten et al in Australia (18) found that 40% and 43% respectively of gay men would be willing to participate in a PrEP efficacy trial.

Overall, men who expressed interest in and willingness to use PrEP generally had lower levels of education and income (4;8;13) and participated in more high-risk sexual behaviours, such as having high numbers of sexual partners (7;13) and having unprotected anal intercourse with casual or HIV-positive partners (5-7;13). A cross-sectional study involving 1161 HIV-negative Australian men (12) found that men were more willing to use PrEP when they were younger, reported unprotected or protected anal sex with casual partners, and perceived themselves to be at high risk of HIV. Other predictors of willingness to use PrEP included experiencing no side effects and not having to pay for the medication (8).

The qualitative findings of a mixed methods study by Brooks et al (11) found that men's interest in adopting PrEP was motivated by: its potential to prevent HIV transmission, less concern about acquiring HIV infection, the opportunity to engage in unprotected sex with HIV-positive or casual partners, and others' endorsement of PrEP's effectiveness.

Perceived barriers and drawbacks of PrEP

Men who have sex with men identified perceived barriers to using PrEP including: the cost and accessibility of the medication, short and long-term side effects, and the adverse effects of irregular PrEP use (11;14). Another major concern was that PrEP use could lead to a false sense of security, increasing HIV risk compensation. For example, a study by Holt et al (12) demonstrated a slight increase (8%) in the likelihood of reduced condom use while on PrEP, and other studies by Golub et al (5) and Brooks et al (14) respectively reported 36% to 60% likelihood of reducing condom use by men on PrEP.

A study among HIV serodiscordant couples (10) found that men were concerned that using PrEP could result in increased risk behavior, such as reduction in condom use, less concern about HIV transmission, and less interest in talking to one's partner about HIV risk.

A review paper by Mansegh et al (17) concluded that as PrEP becomes more available among men who have sex with men, we need a greater understanding

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of the reluctance to use condoms so that HIV prevention programs can be enhanced in a way that reinforces condom use and helps men perceive PrEP as a supplementary biomedical intervention.

Factors That May Impact Local Applicability

With the exception of a study conducted by Eisingerich et al (9), all studies included in this summary were conducted in high income countries that have similar HIV epidemics among gay men as Ontario. At the time included studies were published, nPEP and PrEP were not readily available, so participants reported their attitudes and perceptions based on hypothetical situations.

The US Food and Drug Administration Advisory Committee recently permitted the use of emtricitabine/tenofovir disoproxil fumerate (commonly known as Truvada) for use as PrEP among sexually active women and men (17). However, there are currently no specific guidelines on nPEP or PrEP use in Canada. The amount of literature on nPEP and MSM attitudes is significantly limited compared to the literature on PrEP, making it difficult to draw conclusions about MSM perceptions of PEP.

What We Did

We searched Medline, Embase and PsychInfo using a combination of text terms ((Gay) OR (men who have sex) OR (MSM)) AND ((pre-exposure prophylaxis) OR (preexposure prophylaxis) OR PREP)) and ((Gay) OR (men who have sex) OR (MSM)) AND ((post-exposure prophylaxis) OR (postexposure prophylaxis) OR (PEP)). We also reviewed references in the studies found. All searches were limited to articles published since 2007 in English.