Sex, drugs and HIV prevention: a case for PEPSE

David T Evans
RN BA(Hons)(Kent)
PGDipPsycholCouns
PGCE(Health Professions)
MPhil(Wales)

Educational Consultant in Sexual Health (Freelance)

EC, PEP, PEPSE, HAART. The nursing profession is constantly being bombarded with abbreviations and acronyms, but do you recognise these particular ones? How do they relate to nursing care? And what are their implications for HIV prevention? David Evans describes the process of PEPSE – postexposure prophylaxis following sexual exposure

From a sexual health perspective, "EC" refers to emergency (hormonal) contraception, mistakenly called "the morning-after pill" as it can be taken up to 72 hours after unprotected sexual intercourse (UPSI – another abbreviation!). PEP is a form of EC; it stands for postexposure prophylaxis, a protection, or prophylactic, after a particular exposed event. HIV PEP has "generally" been available to healthcare workers (HCWs) in the UK after potential occupational exposure to the virus, for example through needlestick injuries, since publication of the guidelines by the Department of Health in 2000.[1] However, formal guidelines and procedures are now widening access to HIV PEP following certain genuinely risky sexual exposures (PEPSE) or injecting drug use. This article explores the concept of PEPSE and the urgent necessity for nurses, especially in primary care, to be aware of its uses and availability.

The increasing role of PEP in primary HIV prevention

Since the discovery of AIDS in 1981, and HIV in 1985, scientific knowledge on the modes of transmission, specific types of retrovirus and antiretroviral (ARV) therapies has progressed in leaps and bounds.[2,3] Sadly, these advances do not yet include an effective vaccine against primary HIV infection – safer-sex messages, skills, resources and practices are still essential. Neither is there a vaccine to prevent the HIV infection progressing to become an AIDS-defining illness.

What has been developed, however, and what offers unprecedented benefits in quality and quantity of life for around three-quarters of people taking them, are a group of medications referred to as "combination therapy" or highly active antiretroviral therapy (HAART). Regrettably, and controversially, these drugs are too expensive for about 95% of HIV-infected people across the world.

Did you know?
There were 38 million people estimated to be living with HIV in 2003, including 5 million new infections that year – ie, 10 people infected every minute of the day!
www.unaids.org

These drugs work by successfully interfering with different points in the HIV lifecycle (see Figure 1 and Table 1). There are about 21 drugs to date, most of which have been developed since 1997; hence their newness, cost, side-effects and the sometimes "experimental" nature in finding the right combination for different individuals.

PEPSE typically comprises a four-week course of combination therapy, such as two NRTIs and one PI (or boosted PI). (Exact details can be found at www.bashh.org/guidelines)

The Chief Medical Officer's Independent Advisory Group on AIDS issued guidelines to healthcare professionals, occupationally exposed to HIV, for using a combination of these drugs at the time of potential infection.[1] Even though there are thousands of occupational accidents in the UK each year that might expose an individual to bloodborne pathogens, the HIV infection rate through this route has fortunately remained exceptionally low. In the UK, out of over 66,000 people infected with HIV, only five healthcare workers have been assumed definitely to have been infected through accidental exposure (source: www.hpa.org.uk).

The guidelines explained first-aid measures for occupational exposure, as well as the necessity to seek advice about PEP immediately – if not within the first hour, then as soon as possible after, up to a maximum of 72 hours after the incident. The guidelines also explained that PEP would most certainly not be necessary on each and every occupational exposure to potentially infected contaminants. However, if started, it was imperative that the full course be taken as prescribed – for four weeks. The guidelines also suggested that certain physicians, such as those who work in sexual health/genitourinary services, might consider prescribing the PEP course in exceptional circumstances for sexual (or injecting drug) exposure, particularly in cases of rape by a HIV-positive person. Government guidelines continue to emphasise the imperative for all carers with clinical patient contact to be vaccinated against hepatitis B.

Resources

BASHH
W:www.bashh.org

British HIV Association
W:www.aidsmap.org

Terrence Higgins Trust
W:www.tht.org.uk

CHAPS
W:www.chapsonline.org.uk

Project for Advocacy, Counselling and Education (PACE)
W:www.pace-health.org.uk

RCN Sexual Health Skills Distance Learning Course
W:www.rcn.org.uk/sexualhealthlearning

Society for Sexual Health Advisers
W:www.ssha.info

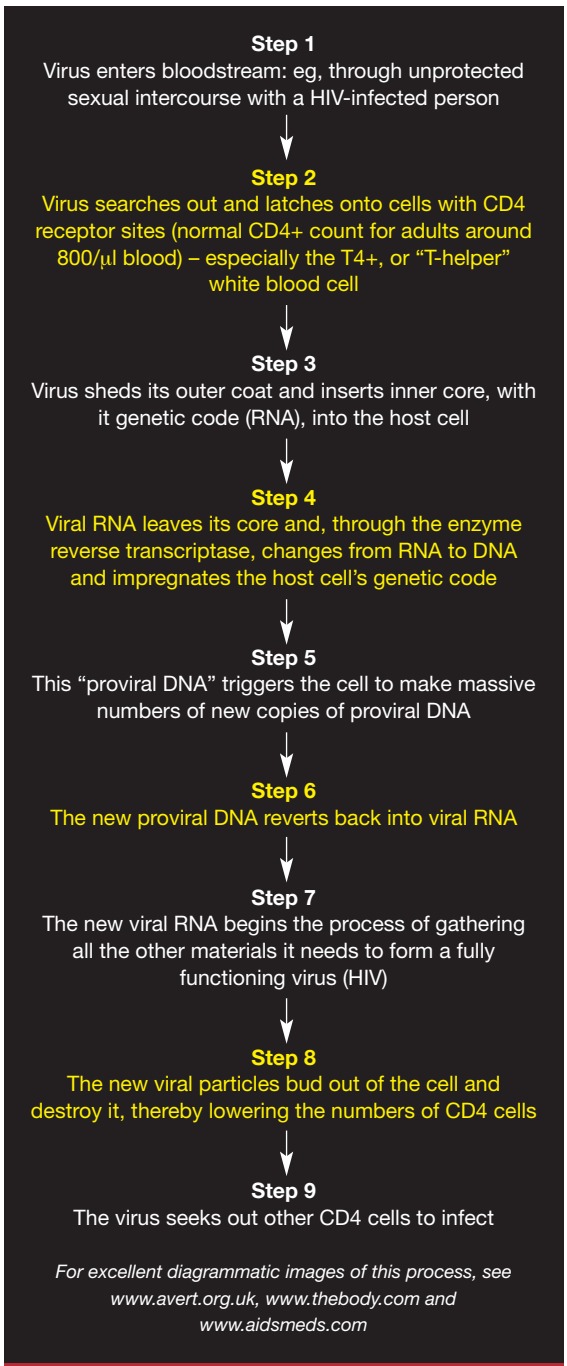

Figure 1
Basic lifecycle of HIV

While the 2000 guidelines were a welcome move forward on the part of carers who may be occupationally exposed to HIV, given the relatively tiny chance of occupational infection compared with the known predominant mode of infection – unprotected sexual intercourse, particularly anal sex – it left the HIV policymakers open to criticism: why were those most vulnerable to HIV infection not being offered anything like the protection measures available to those at significantly less risk?[4,5]

The reasons for not routinely providing PEPSE were based around:

- The limited access to the medications.
- The fact that no clinical trials had been performed to validate the use of PEP for UPSI.
- Fear of overprescribing or overuse of the drugs.
- A potential diminution of emphases on safer-sex practices if individuals thought there was a "morning-after pill" solution.
- The improbability of all these people actually adhering to the strict medication regimen (including numerous side-effects).
- And, of course, the cost!

Stigma

However, for some, the message sank deeper than all of the reasons as to why PEP was not being provided for sexual exposure (and after unsafe injecting drug use). More than any other health condition in recent centuries, HIV tapped into judgemental notions of innocence and guilt, punishments and just rewards.[6–8]

These new initiatives to provide PEP to people significantly more at risk is therefore a welcome development, not simply from an epidemiological point of view, but also in reducing stigma and blame around HIV.[9] However, as Sowadsky reminds us, "These drugs are not candy! They should not be prescribed just to give a person peace of mind. They should only be prescribed when treatment with these drugs is clinically indicated. These are powerful drugs and must be taken following strict dosing guidelines; side-effects are very common, and can sometimes be very serious."[10]

In the UK, the largest section of the population most vulnerable to new HIV infections continues to be gay, bisexual and other men-who-have-sex-with-men (source www.hpa.org.uk). The Terrence Higgins Trust's Community HIV and AIDS Prevention Service (CHAPS) is a campaign to alert these men to the growing availability of PEP. The CHAPS programme has developed awareness campaigns on PEPSE through leaflets, posters, a website and a specially designed pack for healthcare professionals.

Potential impact on provision of care

The national guidelines on the prescribing of PEP for SE are outlined by the British Association for Sexual Health and HIV (BASHH)[11] and cover wide-ranging issues from the potential risk of exposure, the likelihood of "donor" infectiousness, susceptibility of the host, to the preferred medications to give and the development of local services for increased access, especially in areas of high local prevalence (see Table 2). As newer anti-HIV drugs are being developed, and as prescribing regulations change in line with expert opinion, evidence and research findings, this article will not present drug regimens, but encourages you to see the most recent and up-to-date guidelines offered by BASHH (see Resources).

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Table 1. Classification of HAART medications and primary actions

Group name	Pharmacological action
Fusion/entry inhibitors or uncoating inhibitors	Prevent the virus latching onto cells or uncoating and hence releasing their inner core into the host cell
Nucleoside analogues (NAs)/nucleoside reverse transcription inhibitors (NRTIs or "nukes")	Inhibit RNA-to-DNA reverse transcription. NAs/NRTIs are faulty building blocks that mimic HIV's enzyme "reverse transcriptase", which is necessary for viral replication
Non-nucleoside reverse transcriptase inhibitors (NNRTIs or "non-nukes")	Have the same outcome as the "nukes", but work by blocking the action of reverse transcriptase
Protease inhibitors (PIs)	Prevent the protein building blocks of new viral particles getting together to leave the infected cell and bud out to infect others
Newer drugs	Includes drugs that do not have the same basis as the other groups but still inhibit the viral lifecycle

Table 2. Sexual exposure and PEP recommendations

	Source is known to have HIV	HIV status is unknown but from group or area with HIV prevalence greater than 10%
Receptive anal sex	PEP recommended	PEP recommended
Insertive anal sex	PEP recommended	PEP considered
Fellatio with ejaculation	PEP considered	PEP considered
Fellatio without ejaculation	PEP not recommended	PEP not recommended
Semen in eye (an example of mucous membrane exposure)	PEP considered	Not stated

Overcoming stigma and prejudice

One frequent accusation is that if PEP becomes more widely available, individuals will stop practising safer sex. According to limited studies so far, there is no clear evidence to support this accusation.[12,13] Safer-sex messages, education, skills, resources such as condoms and counselling for those who need it are still by far the most effective ways to prevent HIV transmission. Given the noticeable increase in new infections in under-24-year-old gay and bisexual males, there is evidence that such wide-ranging prevention is still underdeveloped, ineffectively used and often erroneously undermined.[14] PEP is just one other resource in the fight against HIV infection.

Where to provide PEPSE

Rapid access to PEP and knowledge of its local availability, by healthcare professionals who can refer on to it, is imperative in all areas where HIV transmission could be an issue, especially in higher prevalence areas such as major cities.[15] The BASHH Guidelines state how provision of PEP is needed on a 24-hour basis and may involve certain areas of service provision being "skilled up", such as accident and emergency departments, pharmacies, NHS Direct, out-of-hour GP and walk-in services (again, most particularly in areas of high incidence of HIV), and services for people who have experienced aggravated sex (anything from rough or traumatic sex through to rape).[11] PEP should also be available to all services that deal with HIV-serodiscordant couples (where one partner is HIV-positive and the other one is not), commercial sex workers and HIV-negative people who are unable to prevent unprotected sex with a positive partner.

Issues, developments and clinical governance

Sections of the media routinely talk about "wasting taxpayer's money" and of people not "deserving" certain treatments. No truer is this than in the area of sexual health, where many people's gut reaction is "you know the risk – the decision is yours!" A 28-day course of PEP currently costs about £600, but in comparison with the possible costs of treating a person with HIV (approximately £181,000),[11] PEPSE is most definitely a cost-effective programme.[13,16] Many studies have also revealed that the availability of PEP does not lead to a reduction in other primary prevention

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(safer-sex) practices by individuals, nor is there evidence of individuals coming back time and again for more PEP. Obviously, if this were the case, counselling an individual about why they are frequently at risk of HIV infection would be a preferred option. Such counselling would highlight the fact that viral strains are increasingly becoming resistant to many of the medications used in PEP, and therefore they are potentially risking failure.

Due to extending PEP guidelines to cover sexual exposure, in line with local sexual health (PCT) leads and budget-holders, primary care facilities will need to audit their current approaches to people potentially exposed to HIV through unprotected sex, to assess the level of service they should be providing to their clients. This may include:

- Enthusiastically promoting information on PEPSE, especially targeting those most vulnerable to HIV infection, using education, advertising and clear signposting.
- Visibly highlighting how, where and when PEP can be accessed.
- Deciding which services will hold short courses of PEP (eg, 5-day "starter packs", which can either be discontinued or upgraded to 28 days when a client is referred to the specialist service).
- Ensuring that trusts develop appropriate policies of implementation, realising that just because no clients have asked for PEPSE doesn't mean that there are no clients who need it.[11,17]
- Guaranteeing customised education for all staff who will have a role in working with people requiring PEPSE, including the ability to discuss sexual matters in a nonjudgemental way, and the ability to convey information on the rationale for PEPSE, the lack of conclusive evidence of its effectiveness, possible risks and side-effects, and the necessity to receive continuing care from a HIV/GU specialist service.[11,18]

Conclusion

New developments in making anti-HIV PEP more widely available in cases of sexual exposure urgently require more appropriately prepared and trained staff, greater public and health service awareness of the initiatives, as well as financial resources for particular services.

Once again, nurses and midwives are uniquely placed in their therapeutic encounters with clients or patients to deal with issues of sexual health. This new development offers nurses an amazing role in multiprofessional initiatives aimed at increasing primary prevention of HIV. ❖