Non-occupational post-exposure prophylaxis for HIV: a systematic review

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CRD summary
This review assessed the use of antiretroviral drug regimens to prevent human immunodeficiency virus (HIV)-negative people exposed to HIV in non-occupational settings from becoming HIV-positive. Only one relevant study was found and the authors concluded that there was insufficient evidence to assess the effectiveness of treatment. This conclusion is likely to be reliable.

Authors' objectives
To review the evidence on the clinical effectiveness and cost-effectiveness of prophylaxis against human immunodeficiency virus (HIV) after non-occupational exposure.

Searching
The authors searched the Cochrane Library, MEDLINE, EMBASE, PubMed, NHS EED, HTA database, DARE, EconLit, NRR, Current Controlled Trials, and ClinicalTrials.gov for articles up to December 2007. Search terms were reported. Searches were restricted to articles in English. Grey literature, conference proceedings, and reference lists of identified papers were also searched.

Study selection
Randomised controlled trials (RCTs), controlled clinical trials, cohort studies, and case-control studies of post-exposure prophylaxis for HIV were eligible. Prospective observational studies were eligible for adverse event data. Post-exposure prophylaxis was an antiretroviral drug regimen administered for up to 28 days to HIV-negative people who may have been exposed to HIV through sexual contact, use of a potentially contaminated needle, or exposure to potentially contaminated biological fluid. Eligible comparators were no prophylaxis or a different prophylaxis regimen. Outcomes of interest were HIV seroconversion frequency (primary outcome), adverse effects of prophylaxis, adherence to treatment, health-related quality of life, and costs or cost-effectiveness.

The only study included for clinical effectiveness evaluated a 28-day course of a fixed-dose combination of zidovudine and lamivudine.

Two reviewers independently selected studies for inclusion. Any disagreements were resolved by consensus, with arbitration by a third reviewer if necessary.

Assessment of study quality
Validity was assessed on the criteria of randomisation, proper sampling, adequate sample size, objective outcomes, blind assessment, objective eligibility criteria, reporting of attrition, comparability of groups, and generalisability.

Two reviewers independently applied the validity criteria. Any disagreements were resolved by consensus, with arbitration by a third reviewer if necessary.

Data extraction
Two reviewers independently extracted data using standard forms. Any disagreements were resolved by consensus, with arbitration by a third reviewer if necessary.

Methods of synthesis
Studies included for adverse events and cost-effectiveness were synthesised using a narrative approach. Only one study met the inclusion criteria for clinical effectiveness, so synthesis was not possible.

Results of the review
Clinical effectiveness: The only study that met the inclusion criteria was a cohort study comparing prophylaxis with no
prophylaxis in high-risk HIV-negative men in Brazil. The study quality was rated as poor. Seroconversion to HIV occurred in one of 68 men in the prophylaxis group and 10 of 132 men in the no prophylaxis group. The incidence of HIV in the study population as a whole did not differ from that expected for the type of population. High-risk sexual behaviour decreased over time in both groups.

**Adverse events:** Four other studies (n=1,573 patients) provided information on adverse events associated with prophylaxis. The majority of patients experienced adverse events, the most common of which were nausea and fatigue. These events were more common with triple therapy than with dual therapy. The completion rates ranged from 24% to 78%.

**Cost information**
Four economic evaluations were included and the results suggested that prophylaxis for non-occupational exposure might be cost-effective, but their generalisability to the UK was uncertain.

**Authors' conclusions**
It was not possible to draw conclusions about the clinical effectiveness of HIV prophylaxis after non-occupational exposure because of the limited evidence available.

**CRD commentary**
This review addressed a clear question and the inclusion and exclusion criteria were clear. The authors searched a range of relevant sources, but limited their search to articles in English, which means there could be a risk of language bias. Publication bias was not assessed. Appropriate methods were used to reduce the risk of errors and bias during the review process. Validity was assessed using standard criteria. Full details of the included studies were presented. No synthesis was possible for clinical effectiveness because only one study was included.

This was a generally well-conducted review. The authors' main conclusion reflected the limitations of the evidence and is likely to be reliable.

**Implications of the review for practice and research**
**Practice:** The authors did not state any implications for practice.

**Research:** The authors stated that there was a need to compare prophylaxis with no prophylaxis for non-occupational exposure in a UK setting using the currently recommended intervention. Other research recommendations were listed in the report.

**Funding**
NIHR Health Technology Assessment programme (project number 07/40/01).

**Bibliographic details**

**PubMedID**
19236820

**DOI**
10.3310/hta13140

**Original Paper URL**
http://www.hta.ac.uk/execsumm/summ1314.htm

**Other URL**
Link to record in HTA database: http://www.crd.york.ac.uk/crdweb/ShowRecord.asp?AccessionNumber=32009100046& UserID=0

**Indexing Status**
Subject indexing assigned by NLM

**MeSH**
Anti-HIV Agents /administration & dosage /adverse effects /therapeutic use; Cost-Benefit Analysis; Databases, Bibliographic; Drug Combinations; Drug Therapy, Combination; HIV Infections /drug therapy /economics /prevention & control /transmission; HIV Seropositivity /drug therapy /economics; Humans; Lamivudine /economics /pharmacology /therapeutic use; Lopinavir; Premedication; Pyrimidinones /economics /pharmacology /therapeutic use; Ritonavir /economics /pharmacology /therapeutic use; Substance Abuse, Intravenous; Time Factors; Treatment Outcome; Unsafe Sex; Zidovudine /economics /pharmacology /therapeutic use

**AccessionNumber**
12009105639

**Date bibliographic record published**
19/08/2009

**Date abstract record published**
24/03/2010

**Record Status**
This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.