Efficacy of interventions in improving adherence to antiretroviral therapy

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CRD summary
This review evaluated interventions to improve adherence to antiretroviral therapy. The authors concluded that findings from preliminary studies suggest that interventions can improve adherence, but further research is required. Although the authors’ cautious conclusion appears appropriate, the poor reporting of review methods and the lack of an assessment of study quality make it difficult to assess the reliability of the conclusions.

Authors’ objectives
To evaluate interventions aimed at improving adherence to antiretroviral therapy (ART) in patients with the human immunodeficiency virus (HIV).

Searching
MEDLINE, CINAHL, the Cochrane Library and PsycINFO were searched for published studies from 1996, when multiple therapy began. The reference lists of relevant articles were screened. The authors did not state whether any language restrictions were applied.

Study selection
Study designs of evaluations included in the review
Inclusion criteria were not specified in terms of the study design. The duration of follow-up amongst randomised controlled trials (RCTs) ranged from immediately post-intervention to 18 months.

Specific interventions included in the review
Studies of interventions aimed at improving adherence to ART were eligible for inclusion. Half of the included studies evaluated combinations of cognitive and behavioural interventions; other studies evaluated emotional support, either alone or in combination with other elements or methods used to provide services. Most interventions were provided to individuals; others were provided to groups. The interventions were delivered by a variety of providers, such as pharmacists, nurses, HIV primary care providers, paraprofessionals, peers and counsellors. The duration of the interventions ranged from one session to several contacts over 10 months. Three studies evaluated theory-based interventions.

Participants included in the review
Studies of patients with HIV who were taking ART were eligible for inclusion. About half of the included studies targeted general HIV populations; most of the others targeted active injecting drug users or patients with a history of substance abuse.

Outcomes assessed in the review
Studies that assessed adherence were eligible for inclusion. The included studies assessed adherence using self-report, refills, MEMS TrackCaps, medication monitoring, clinic visits or appointment attendance. Other outcomes, such as decrease in viral load, were also assessed (details were reported).

How were decisions on the relevance of primary studies made?
The authors did not state how the papers were selected for the review, or how many reviewers performed the selection.

Assessment of study quality
The authors did not state that they assessed validity.
Data extraction
The authors did not state how the data were extracted for the review, or how many reviewers performed the data extraction. For each study, the outcome measures and study findings were extracted.

Methods of synthesis
How were the studies combined?
The studies were grouped by study design (Phase I or II pilot studies and Phase III RCTs) and combined in a narrative.

How were differences between studies investigated?
Differences between the studies were discussed with respect to study design, sample size, populations targeted, interventions, underlying theory and timing of the outcome assessment.

Results of the review
Sixteen studies (n=1,230) were included in the review. The sample size ranged from 10 to 260.

Phase III studies (RCTs).
Three of the four studies with 'adequate' sample sizes (n=116 to 244) reported improved adherence with the interventions; the other large RCT (n=195) reported no significant difference between the intervention and control. In the five smaller RCTs (n=25 to 55), improvements with interventions were either non significant or temporary.

Phase I and Phase II pilot studies.
The findings suggested that interventions could improve adherence in patients: three studies reported improved adherence in patients who were current or previous drug users, while two studies reported improved adherence with cognitive-behavioural interventions.

Authors' conclusions
The findings suggest that interventions can improve adherence to ART, but research was at an early stage and further research is required.

CRD commentary
The review addressed a clear question that was defined in terms of the participants, intervention and outcomes; the inclusion criteria for study design were not specified. Several relevant sources were searched, but the search strategy was not described in full (no search terms were reported) and there were no attempts to identify unpublished studies, thus raising the possibility of publication bias. It was not stated whether any language restrictions were applied and so the potential for language bias could not be assessed. Since the methods used to select studies and extract the data were not described, it is not known whether any efforts were made to reduce errors and bias. The authors did not state that they assessed validity, therefore the results from these studies and any synthesis may not be reliable.

Given the differences between the studies, the narrative synthesis with emphasis on the larger RCTs appeared appropriate. The authors' cautious conclusion appears to follow from the results presented, but the lack of reporting of review methods and the lack of an assessment of study quality make it difficult to confidently assess the reliability of the conclusions.

Implications of the review for practice and research
Practice: The authors stated the need to develop new methods to help patients adhere to medical therapies and health care recommendations.

Research: The authors stated that future studies should be based on a theoretical and practical understanding of adherence; evaluate interventions that are appropriate to the populations targeted; use multiple strategies that involve the
main care providers; have a treatment protocol; and assess outcomes after an appropriate time interval, using appropriate measures.

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