

Adherence to Nonnucleoside Reverse Transcriptase Inhibitor–Based HIV Therapy and Patient Outcomes

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The full report is titled “Adherence to Nonnucleoside Reverse Transcriptase Inhibitor–Based HIV Therapy and Virologic Outcomes.” It is in the 17 April 2007 issue of *Annals of Internal Medicine* (volume 146, pages 564-573). The authors are J.B. Nachega, M. Hislop, D.W. Dowdy, R.E. Chaisson, L. Regensberg, and G. Maartens.

What is the problem and what is known about it so far?

HIV is the cause of AIDS, which is a potentially deadly illness that interferes with the body’s ability to fight off infection and certain types of cancer. Treatment regimens containing several drugs (called highly active antiretroviral therapy or HAART) have greatly improved outcomes for HIV-infected patients. Unfortunately, people need to have high levels of adherence to the treatment regimens for the drugs to work. Adherence means taking drugs exactly as prescribed and not missing doses. Newer treatment combinations include drugs called nonnucleoside reverse transcriptase inhibitors (NNRTIs). It is unclear whether treatment combinations that include NNRTIs require the same high level of adherence to effectively treat HIV infection as treatment combinations that do not contain these drugs. Studies of treatment combinations that did not include NNRTIs suggest that patients need to take 90% of prescribed doses to effectively suppress HIV infection.

Why did the researchers do this particular study?

To find out whether HIV treatment combinations that include NNRTIs require the same high level of adherence as regimens that do not contain these agents.

Who was studied?

2,821 HIV-infected adults who started treatment with NNRTI-containing treatment between January 1998 and March 2003. All patients were receiving health care in an HIV program in South Africa that covered the cost of the drugs.

How was the study done?

The researchers used the pharmacy computer system to determine how often the patients refilled their HIV treatment prescriptions. They also collected information on the results of blood tests for viral load. Doctors use viral load measurements to monitor patients who are receiving treatment for HIV infection. Viral load is a measure of the amount of HIV virus in the blood. It increases as the disease advances, so a lower viral load is better. The researchers considered viral load less than 400 copies/mL to be complete suppression of HIV infection, which is a good outcome.

What did the researchers find?

As adherence to prescribed drugs increased, complete suppression increased. However, some patients who took only 50% of prescribed doses had complete suppression (viral load fewer than 400 copies/mL).

What were the limitations of the study?

The researchers recorded how often patients filled their prescriptions as a way to measure how well they followed the prescribed treatment. It is possible that some patients filled their prescriptions regularly but did not take the drugs as prescribed. Also, not all patients had their viral load measured at set times in relation to when they started treatment.

What are the implications of the study?

Although outcomes are best when patients take HIV treatment exactly as prescribed, patients who receive drug combinations that include NNRTIs may have good viral load outcomes with medium adherence levels. Studies of drug combinations that do not contain NNRTIs suggest that these regimens require higher levels of adherence for good outcomes.

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