



Adherence, depression and mortality

Many people living with HIV — as many as 34% — suffer from depression. Studies have shown that people who are depressed are more likely to develop AIDS, or die, than those who aren't. We also know that depression affects how well people stick to their treatment plan (**adherence**), which may in fact explain the increased risk of death. But is it the only explanation?

To investigate the relationship between depression, adherence and mortality, Dr. Viviane Lima and colleagues from the BC Centre for Excellence in HIV/AIDS examined 563 people starting HAART. All participants were asked to fill out a questionnaire on depression.

Just over half (51%) had depressive symptoms at the outset and most adhered well to their drug regimen during the first year. Women, people with an income under \$10,000/year, a history of injection drug use and those who were least adherent to their drug regimen were more likely to have depressive symptoms.

Over the four-year follow-up period, researchers found that the people with



the highest risk of death were those who were depressed and who didn't stick to their treatment plan. Poor adherence also increased the risk of death among those who weren't depressed. Those who took their medications properly and who weren't depressed had no increased risk of death.

Taken together, these results show that depression may not lead to worse outcomes, except when it's also associated with poor adherence. Previous studies have linked depression to a higher risk of illness and mortality. However, this is one of the first to show that the risk of death is highest among non-adherent individuals with depressive symptoms, and lowest in those who are adherent and not depressed.

Depression can have other severe physical and emotional consequences for people living with HIV. Given how common it is in this population, people should be encouraged to seek treatment or counselling for depression prior to or at the time of starting HAART.

Hep B drug may compromise HIV treatment

More than four million people living with HIV worldwide also have hepatitis B (HBV), which complicates the treatment of both infections. A study published in the *New England Journal of Medicine* last June shows that one of the drugs given to treat hepatitis B, entecavir (Baraclude®), can cause resistance to two of the most widely used antiretroviral drugs (ARVs).

Entecavir (Baraclude®) prevents the hepatitis B virus from replicating by plugging itself into a viral enzyme called a polymerase. But the hepatitis B polymerase looks a lot like the reverse transcriptase enzyme that HIV uses to multiply inside an infected cell. Researchers have suspected that treating co-infected patients with entecavir might also have an effect on HIV.

As it turns out, entecavir caused a noticeable decrease in HIV viral loads in all three people with HIV/HBV co-infection (none of whom were taking ARVs) who participated in this study. This

may seem like a good thing, but in one case, the HIV virus began to mutate, accumulating several HIV **variants** with a mutation called M184V. This specific mutation is known to make the virus highly resistant to the ARVs lamivudine (3TC, Epivir®, also in Combivir®, Kivexa® and Trizivir®) and emtricitabine (Emtriva®, also in Truvada®).

This is particularly troublesome for people with HIV and HBV who take entecavir but aren't currently on ARVs. That's because they could lose the option of two of the most widely used drugs when the time comes for them to start treatment for HIV.

We don't know if entecavir would have the same effect on people who are already taking ARVs. If their HIV viral load is already down to undetectable levels, it might stand to reason that drug resistance wouldn't develop. If, on the other hand, the viral load is higher, their HIV may very well develop the same mutations. **R**