

# HATiP

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## One in five Kenyan patients suffers major interactions between HIV drugs and other medicines

Nearly 20% of patients in an HIV treatment programme in Kenya have suffered major interactions between their HIV drugs and other prescribed medicines, a study has found. In half of these cases the result of the interaction was to significantly lower the levels of antiretrovirals in the blood.

The retrospective survey of patient case-notes in the AMPATH (Academic Model for the Prevention and Treatment of HIV/AIDS) found that altogether 30% of patients had suffered major or minor consequences from drug interactions.

The findings were presented on Wednesday at the Ninth Congress on Drug Therapy in HIV Infection, which is taking place this week in Glasgow.

Presenter Dr Saye Khoo of the University of Liverpool commented that the number of interactions found was a minimum. Firstly, many patients might have suffered interactions but not reported them to healthcare workers. Secondly, some classes of drugs were not recorded in patient notes; one significant example was female contraceptives, which can cause significant interactions. Traditional medicines were also not recorded.

The AMPATH Project currently treats 55,000 people with HIV in and around the town of Eldoret in north-western Kenya, with 2,000 new patients registering every month. The current study was a retrospective audit of 1,000 consecutive patients who enrolled into the programme between January 2006 and April 2007.

Drug interactions were divided into major interactions (meaning ones that were life-threatening or required hospital admission or treatment for the interaction), moderate (causing deterioration in clinical status and/or dose modification of at least one drug) and minor (bothersome but not requiring intervention).

The average age of patients was 38, their baseline CD4 count was about 140 and about two-thirds were women; these characteristics did not vary between those who had drug interactions and those who did not.

The most common antiretroviral drugs used were, in this order, 3TC, d4T, and nevirapine (given largely as the *Triomune* combined pill); then AZT and efavirenz; then smaller numbers on other NRTIs and on protease inhibitors. Sixty-five patients out of the 1000 were on second-line regimens.

Nearly 19% of patients had major drug interactions recorded in their notes. The most common severe interactions were between the NNRTI drugs efavirenz and nevirapine and the TB drug rifampicin, which lowers the level of ARVs in the body. There were also a number of interactions between nevirapine and the antifungals fluconazole and ketoconazole. There were 23 major interactions involving protease inhibitors (almost all either boosted

lopinavir or nelfinavir) and a variety of drugs including the antacids lansoprazole and omeprazole, rifampicin again, and a couple of interactions involving fluoxetine (*Prozac*) and the antimalarial combination artemether plus lumefantrine.

Moderate drug interactions were experienced by 14% of patients and were dominated by interactions between the NNRTI drugs and the antimalarials, and also the steroid prednisolone. Only just over 4% of interactions counted as minor ones, probably because such reactions did not usually get recorded.

Two hundred and thirteen patients had one interaction recorded, 51 had two, 11 had three and one unfortunate patient had four. Forty-seven per cent of interactions would have resulted in lowering of ARV concentrations.

There was no follow-up of the clinical consequences of the interactions in the study, so it's impossible to say if any were implicated in subsequent deaths, though there do not appear to have been deaths due to acute interactions.

Khoo commented that with coexisting epidemics of HIV, TB and malaria in Africa, a rate of one patient in four suffering clinically significant drug interactions was not that surprising and that directors of national HIV treatment programmes needed better protocols to avoid interactions between drugs for the three diseases.

### Further information on drug interactions

Dr Saye Khoo and colleagues at the University of Liverpool maintain an excellent website on HIV drug interactions that is updated frequently (see <http://www.hiv-druginteractions.org>) The website allows you to check all the potential interactions between an antiretroviral drug and other types of drugs.

You can find an overview of drug interaction issues in HIV medicine at [aidsmap.com](http://aidsmap.com) [here](#).

### Reference

Kigen G et al (presenter Khoo S). *Prevalence of drug interactions between antiretroviral and co-administered drugs in Kenya*. Ninth International Congress on Drug Therapy in HIV Infection, Glasgow. Abstract O121. 2008.