AIDS briefs

Progress to Millennium Development Goals hampered by HIV

KEITH ALCORN

Slower progress towards achieving Millennium Development Goals (MDGs) on health is strongly correlated with a country's burden of HIV disease and non-communicable diseases, according to an analysis by researchers from the London School of Hygiene, Oxford University and the University of California San Francisco recently published in *PLoS Medicine*.

The MDGs on health were set in 2001, and commit United Nations member states to work towards reducing child mortality by two-thirds and maternal mortality ratios by three-quarters, and to halt and reverse the spread of HIV, tuberculosis and malaria by 2015.

However, progress has been uneven, and several explanations have been offered as to why low-income countries in particular have made such limited progress towards the health targets established in the MDGs. Limited resources and inadequate funding for health are commonly offered as explanations, along with the inadequate health infrastructure in many low-income countries.

Less attention has been paid to quantifying the impact of coexisting epidemics and non-communicable diseases, say the authors of the new study. Indeed, allocation of large amounts of donor funding to combat HIV has been specifically cited as a barrier to achieving MDGs on child and maternal mortality, since this is accused of diverting funds away from interventions argued to have greater population impacts.

The analysis published in *PLoS Medicine* shows that, if anything, it is inadequate responses to AIDS that are impeding progress towards MDG health targets, along with a failure to appreciate the extent to which HIV and non-communicable diseases trap households in cycles of poverty and illness.

The study, carried out by Dr David Stuckler at Oxford University, Professor Martin McKee at the London School of Hygiene and Tropical Medicine, and Dr Sanjay Basu at the University of California San Francisco, is an analysis of MDGs indicator reports, in which the researchers looked at the relationship between the rate of progress towards the health MDGs and the following variables:

- economic development (measured as GDP per capita)
- priority placed on health (health spending as a percentage of GDP)
- real health spending
- HIV/AIDS burden
- non-communicable disease mortality rates.

The analysis found that national burdens of HIV/AIDS and non-communicable diseases explained more than half of the inequalities between countries in progress on child mortality and TB control.

Indeed, the relationship was so strong that reducing HIV prevalence by just 1% would have a similar impact on progress towards the tuberculosis MDG as one decade of economic growth in a low-income country (a GDP increase of at least 80%), the researchers say. Reducing HIV prevalence by 1% would have a similar effect on child health outcomes as a 40% increase in GDP over 10 years, they say.

In contrast, GDP per capita, health spending as a proportion of GDP, total health spending and physicians per capita explained no more than one-fifth of the total difference between countries making good progress and countries making poorer progress.

Global health initiatives need to embrace a wider range of health problems, the researchers argue, and narrowing of focus – either to emphasise one specific disease, or one specific outcome, such as immunisation uptake – may lead policy makers to ignore the interrelationship between diseases which 'trap households in vicious cycles of mortality and poverty'.

Stuckler D, *et al.* Drivers of inequality in Millenium Development Goal progress: a statistical analysis. *PLoS Medicine* 2010; 7 (3): e1000241.

Article courtesy of www.aidsmap.com

First description of lymphoma in South African HIV patients

MICHAEL CARTER

Investigators in Johannesburg have found that the majority of certain lymphomas diagnosed in the city are in people with HIV. Their findings, which are published in the *Journal of Acquired Immune Deficiency Syndromes* of 15 April, provide the first characterisation of lymphomas in a setting with a high HIV prevalence.

'This article makes an important contribution to the characterisation of these lymphomas and allows the establishment of a baseline that will enable ongoing monitoring of trends in lymphoproliferative disorders as the HIV epidemic matures and access to antiretroviral therapy increases,' comment the investigators.

HIV is associated with an increased risk of certain lymphomas, especially high-grade B-cell non-Hodgkin lymphoma and lymphoma of the central nervous system.

However, lymphomas are not regarded as a significant cause of death among HIV-positive patients in Africa, possibly because such malignancies are not properly recognised or recorded. An alternative explanation could be that patients are dying of other causes before lymphomas have had the opportunity to develop.

Investigators from the pathology departments of the Charlotte Maxeke Johannesburg Hospital wanted to establish a better understanding of the types of lymphomas that are developing in patients with HIV.

They designed a retrospective study involving 1 897 patients treated at the hospital for lymphoma between 2004 and 2006. HIV tests results were available for 709 patients, and 37% of these individuals were HIV positive.

The most commonly diagnosed lymphomas included diffuse large B-cell lymphoma (21%), B-cell non-Hodgkin lymphoma (17%), and Hodgkin lymphoma (7%). There was a high prevalence of HIV in the patients diagnosed with these malignancies.

Some 80% of individuals with diffuse large B-cell lymphoma were HIV positive. These patients had a mean CD4 cell count of 158 cells/mm^3 and a mean age of 44 years.

HIV prevalence among individuals with B-cell non-Hodgkin lymphoma was 59%. The mean CD4 cell count of these HIV-positive individuals was 143 cells/mm^3.

Just under half (46%) of all patients with Hodgkin lymphoma were HIV positive.

Burkitt's lymphoma was rare in the overall patient population, contributing just 6% of all lymphoma diagnoses. However, 86% of these cases involved patients with HIV. In addition, all 5 patients diagnosed with primary effusion lymphoma were HIV positive.

By contrast, none of the patients diagnosed with either follicular lymphoma and mantle cell lymphoma was HIV positive. Few of the patients with small lymphocytic lymphoma/chronic lymphocytic leukaemia (4%), or pre-B-cell lymphoma (5%), were HIV infected.

'This study represents the first detailed description of lymphoproliferative disorders in Johannesburg … these data support the association between HIV and certain non-Hodgkin lymphoma categories seen in other African studies,' comment the investigators.

The researchers acknowledge that their inability to determine the HIV status of a large number of patients was an important limitation of their study.

'This study further underscores the importance of establishing sustainable South African and regional cancer registries and highlights the need for linking these to HIV-testing databases,' conclude the investigators. They believe that these steps are essential 'to monitor the potential rise of non-AIDS-defining malignancies that may emerge as a result of the HIV epidemic'.

Mantina H, *et al.* Characterization of lymphomas in a high prevalence HIV setting. *J Acquir Immune Defic Syndr* 2010; 53: 656-660.

Article courtesy of www.aidsmap.com

Single Suture

Chewing gum to reduce drooling in Parkinson's

Chewing gum may be an effective way of managing salivary secretions in Parkinson's disease. The disease is associated with impairment of swallowing, which in turn can lead to drooling. A pilot study showed that chewing gum increased the frequency and decreased the latency of swallowing in patients with Parkinson's disease who had no substantial problems in swallowing while eating. The positive effects continued for longer than 5 minutes after the gum was spat out.

Smith AR, *et al. Neurology* 2010; 74: 1198-1202.

Single Suture

Genetic cause of brain tissue loss in some obese elderly

Elderly obese people are more likely to develop dementia and their brains tend to be smaller than those of people of normal weight. This has previously been thought to be as a result of clogged arteries that slow down blood flow, which leads to neuron death.

However, Paul Thomson and colleagues from the University of California have found a gene variant linked to obesity that may harm the brain directly. Half of Europeans and West Africans have a variant of the gene *FTO* that increases the risk of obesity by two-thirds. This variant is also thought to affect metabolism and fat storage.

Thomson's team looked at the brain scans of 206 healthy people aged 70 - 80. They found that those with at least one copy of the *FTO* gene had 8% less volume in their frontal lobes and 12% less in the occipital lobes, compared with people who lacked the variant. The brains of people with the variant looked 16 years older.

The participants in this study did not have cognitive problems. However, these brain areas are critical to problem solving and perception, and brain atrophy in these regions increases the risk of memory problems and dementia.

Ho AJ, *et al. Proc Nat Acad Sci,* published online before print, 19 April 2010, doi: 10.1073/pnas.0910878107.