Geofile Online
JANUARY 2012
657

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AIDS – A GLOBAL UPDATE, WITH CASE STUDIES FROM SUB-SAHARAN AFRICA

In 1981, the first cases of AIDS (Acquired Immuno Deficiency Syndrome) were identified among gay men in the United States of America. The following year 14 countries reported instances of AIDS, and the range of people infected had spread to include haemophiliacs, people given transfusions using contaminated blood, heterosexual men and women and intravenous drug users.

In the same year, at a meeting in Washington DC, the disease was officially named. As it is actively passed on it has to be acquired; as it makes the immune system less capable of fighting infection it is known as immuno deficient; and, as it is not a disease itself (but leads to a number of diseases that affect its victims as their immune system fails), it is known as a syndrome. In 1983, a French scientist discovered the cause of AIDS to be a virus named HIV (the Human Immunodeficiency Virus), and the more correct term HIV/AIDS began to be used.

Early scientific investigation identified the first known case of death from AIDS to have been an African male who died in 1959. It became apparent that the disease had, most probably, originated in a species of monkey in Africa and had been passed to humans by unknown means. Since then, there has been much research into the ways that HIV/AIDS spreads (Source 1) and of methods to prevent it. Education in ways to prevent transmission has been very successful in slowing the spread in both developed and developing countries. The success of drugs called anti-retrovirals (which keep the HIV virus under control) has also been responsible for cutting AIDS deaths. These drugs have eased the lives of sufferers in the developed world, but many are too expensive to have had much impact in poorer countries. It is in these parts of the world, especially in the countries of sub-Saharan Africa, where the most damaging effects of AIDS have since been felt.

The spread of HIV/AIDS is known as a 'long-wave' event. Even though it has been spreading since the 1970s, many countries have not yet seen the epidemic reach its peak. The full social and economic impacts are easy to overlook because they are so slow-moving, but it is likely that, for many countries, the long-term effects will take decades to materialise.

Source 1: Methods of infection by HIV

HIV is hard to transmit and can only be passed on through contaminated body fluids. The main transmission methods, in order or importance, are:

- unsafe sex
- transmission from infected mother to child
- use of infected blood or blood products
- intravenous drug use with contaminated needles
- other methods of transmission involving blood; for example, bleeding wounds.

(Adapted from Barnett and Whiteside, 2006)

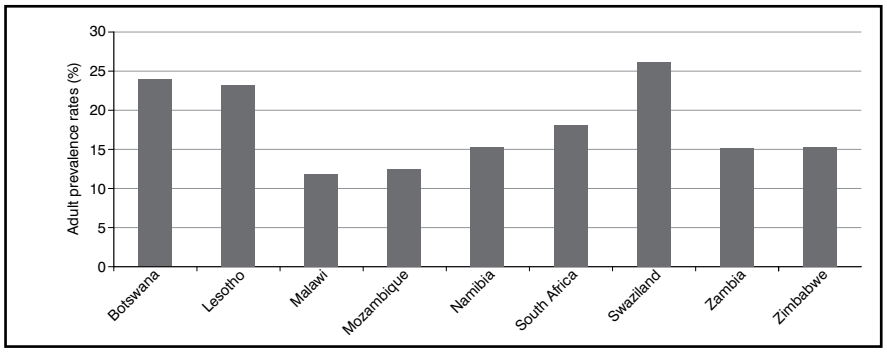
Figure 1: Regional HIV and AIDS statistics 2008 (source: United Nations)

	Adults and children living with HIV	Adults and children newly infected with HIV	Adult prevalence (15-49) (%)	Adult and child deaths due to AIDS
Sub-Saharan Africa	22.4 million	1.9 million	5.2	1.4 million
Middle East and North Africa	310,000	35,000	0.2	20,000
South and South-East Asia	3.8 million	280,000	0.3	270,000
East Asia	850,000	75,000	<0.1	59,000
Latin America	2 million	170,000	0.6	77,000
Caribbean	240,000	20,000	1.0	12,000
Eastern Europe and Central Asia	1.5 million	110,000	0.7	87,000
Western and Central Europe	850,000	30,000	0.3	13,000
North America	1.4 million	55,000	0.6	23,000
Oceania	59,000	3,900	0.3	2,000
Total	**33.4 million**	**2.7 million**	**0.8**	**2.0 million**

The global spread of HIV/AIDS – the situation in 2009

According to the recent figures available from the United Nations, there are around 33.4 million people living with HIV/AIDS worldwide – 2.1 million of these are children under 15 and roughly half of all those infected are women. There were 2.7 million new cases in 2008 and around 2 million deaths from the disease. All the figures published are estimates. Cases of HIV/AIDS often go unreported because the cause of death may be from diseases such as tuberculosis (TB) that attack people weakened by HIV; around one-third of all those infected with HIV/AIDS are co-infected with

Figure 2: Highest HIV/AIDS prevalence rates in sub-Saharan Africa



Source: www.avert.org

TB. In addition, there is still a stigma attached to HIV/AIDS in many countries, making people reluctant to seek help from medical professionals.

There is no major populated region of the earth unaffected by the disease (Figure 1). Young people account for around 40 per cent of all new adult (aged 15 and over) infections worldwide, leading to significant problems for the economically active population of some countries. In Sub-Saharan Africa HIV/AIDS has also orphaned around 14 million children so far, leading to wide-reaching economic effects amongst those who have to care for the abandoned children. It is estimated that each infection directly influences the lives of four other individuals, leaving many millions affected, but not infected, by the disease.

Regional variations

1. HIV/AIDS in Latin America and the Caribbean
While the numbers of people living with HIV continue to rise in the countries of Latin America and the Caribbean, there are huge differences in prevalence rates and in the methods of transmission. In the Caribbean islands the epidemic mostly affects heterosexuals, especially those involved in the sex trade. Haiti – one of the world's poorest countries – is the worst affected in the region, with a national prevalence rate of 5.6 per cent, but this ranges from 13 per cent in the north-west to 2 per cent in the south. Prevention measures such as encouraging the use of condoms have been successful in places including the Dominican Republic and Nicaragua. Further south, the countries of South America are mainly concerned with spread through contaminated drug-injecting equipment and homosexual sex, eg in Argentina 24 per cent of homosexual men are infected.

2. HIV/AIDS in Asia
While national infection levels are low in many Asian countries, the large populations mean the absolute numbers infected are high across the continent. Commercial sex is a money-making business in much of Asia and an estimated 5 to 10 per cent of men, many married or in steady relationships, pay for sex. The majority of sex workers do not use condoms because their clients refuse to do so – many charge more for sex without a condom.

Countries hit by the epidemic early on, such as Cambodia and Thailand, have managed some recent success in controlling HIV/AIDS, but those now starting to experience big increases in the number of infected people, including Nepal, Indonesia and parts of China, are struggling to take the necessary steps to limit the damage.

3. HIV/AIDS in the United States
The country where the disease was first identified was also the first to have a major campaign encouraging safe sex and the first to introduce anti-retroviral drug therapy. However, the decline in AIDS-related deaths that came about because of these measures seems to have bred complacency and it is on the increase again. Sex between men is a big cause, while the numbers of injecting drug users becoming HIV positive has decreased. The biggest recent increase in infection has been through unprotected heterosexual sex. There has been a disproportionate increase amongst African-Americans, and black women currently account for 72 per cent of all new female cases.

4. HIV/AIDS in Europe
The recent pattern of the epidemic in Western Europe is very similar to that shown in the USA, perhaps brought on through complacency, as fewer people have died than was originally expected. Eastern Europe has, however, seen a nine-fold increase in infections over the last decade. The Russian Federation, where up to three million people are thought to inject drugs – almost half of them with non-sterile needles – is the centre of the largest epidemic. The majority of these drug users are young and sexually active, thereby increasing the risks of transmission. In countries including Ukraine the rise of HIV/AIDS infections has run alongside a rise in the number of cases of tuberculosis – now the leading cause of death amongst people dying of AIDS.

Case studies from sub-Saharan Africa

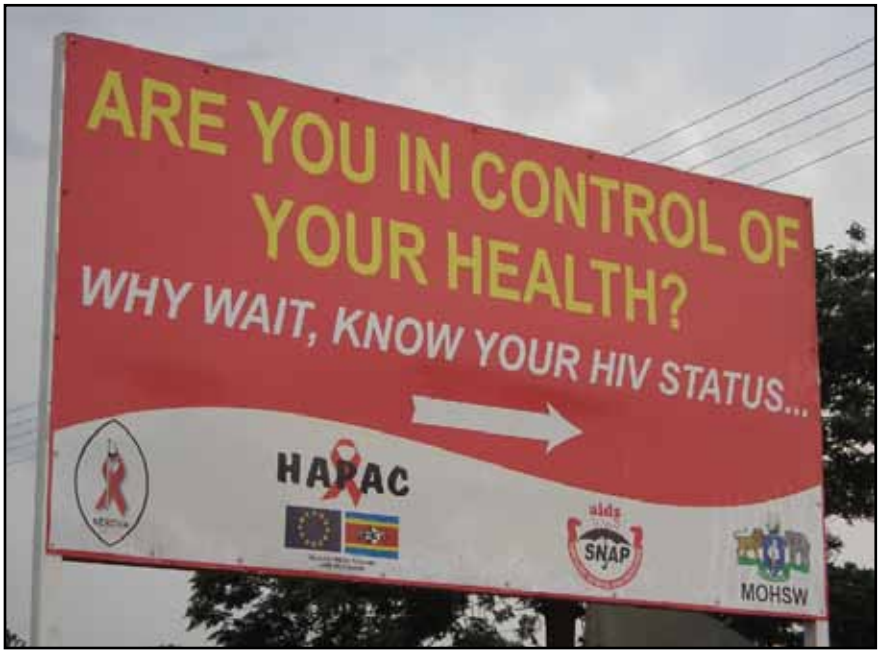
One in 20 adults (aged between 15 and 49 years old) in sub-Saharan Africa is infected with HIV/AIDS, making it by far the worst affected part of the world. During 2008, there were 1.4 million AIDS deaths – although many more may have died from unnoticed AIDS-related illnesses. Women, the primary child carers, are more affected than men and the death of one or both parents has put a huge strain on traditional family structures. Approximately 12 million AIDS orphans are having to be cared for by extended family structures, including older siblings and grandparents. Economically this is a disaster, as scarce resources are diverted towards caring for large families rather than on education and public health facilities that could lead to greater development. Culturally, there are huge problems for the future, as many children grow up without knowing a traditional family life and, without the correct role models, unsure about their place in society. The worst affected countries are in the far south of the continent (Figure 2).

Case study 1: Swaziland
'The long-term survival of Swaziland as a country will be seriously threatened if the spread of HIV is not halted.' (Source: United Nations Development Programme).

In Swaziland, a small landlocked country with a population of 1.1

Figure 3: Case study countries in sub-Saharan Africa

Figure 4: HIV awareness campaign in Swaziland



Source: http://www.research4development.info/caseStudies.asp?ArticleID=50249

million people (Figure 3), one in four of the population is infected with HIV/AIDS. When those who are economically active die or become too sick to work, there is less food and money available for their family, leaving them more likely to become ill and unable to afford medicine and health care. Premature adult deaths have left a youthful population, with 39 per cent under the age of 14. Increasingly, orphans are being cared for by grandparents or, if these too have succumbed to the disease, left to fend for themselves. Stuck in poverty, these young people become increasingly likely to indulge in behaviour that will see them infected as well. On a larger scale, the declining economy and the increasing proportion of government funds needed to combat HIV/AIDS is setting back the long-term development of an already very poor country.

There have been initiatives to prevent the spread of HIV/AIDS, such as condom distribution, education and advertising campaigns (Figure 4), and efforts to prevent mother-to-child transmission. King Mswati III himself has declared the matter a national emergency, and has introduced measures preventing young women from having sex, and penalising men who have sex with virgins. These measures have been criticised for putting the blame for the spread of the epidemic disproportionately onto women, and the King himself has been accused of hypocrisy, as he has numerous wives. One of the main problems is the lack of HIV testing. The stigma attached to people who have HIV/AIDS has made many Swazis reluctant to discover their 'status', and this ignorance means they have continued to spread the disease.

Case study 2: Botswana

'We are threatened with extinction. People are dying in chillingly high numbers. It is a crisis of the first magnitude.' (President Festus Mogae, 2001)

One of the richest and most developed countries in southern Africa, Botswana has been very badly affected by HIV/AIDS – since the first reported case in 1985, almost one in four of the two million population have become infected. Life expectancy in 1995 was 65, but this has since plummeted to around 40.

The epidemic has set back the development of Botswana's economy by many years. Families have been forced into poverty and the lucrative agriculture and mining sectors have seen big decreases in productivity. Children whose parents have died have been forced into care roles for siblings and other relatives, have given up on their education and seen their own life opportunities disappear.

The Botswana government's response has provided a model for the rest of Africa to follow. It was the first country on the continent to provide universal access to anti-retrovirals (Figure 5) – the drugs that, while not curing HIV/AIDS, mean sufferers may not become ill for many years and can carry on a reasonably healthy active life. The total of 500 people given anti-retrovirals in 2002 had grown to 117,000 receiving treatment by the end of 2008 – 94 per cent of those who needed them. The drugs are not cheap, but Botswana was able to provide them because of its strong economy. Other African countries do not have the same level of resources available.

While many sufferers now have their symptoms suppressed because of the drugs available, there is still a huge need for action to stem the spread of new infections. Botswana has adopted a series of approaches:

- public education and awareness campaigns (ABC – Abstain, Be faithful and Condomise), especially aimed at young people
- condom distribution and education
- targeting of high-risk adult populations
- improvement of blood safety
- prevention of mother-to-child transmission of HIV.

The prevention campaign is ambitious and shows only very slow signs of working, but it is crucial to Botswana's aim to have no new infections by 2016, the 50th anniversary of the country's independence.

Figure 5: Anti-retroviral drug therapy

Source: http://www.hrw.org/en/news/2008/12/15/kenya-make-hiv-treatment-children-priority

Recent advances in treatment and prevention

Preventing new infections is the key to successfully tackling HIV/AIDS. It should be remembered that, even in the worst affected countries, there are many more people HIV negative than positive. In most countries prevalence is low and needs to be kept that way, especially when there is a new cohort of young people becoming sexually active each year. Currently there are a number of initiatives taking place to try to prevent the spread of the disease.

Treatment of sexually transmitted infections (which increase susceptibility to HIV/AIDS) is increasing in importance; prevention of mother-to-child transmission is relatively cheap and simple and can cut down massively on new infections – counselling, testing and providing a new infant with formula, rather than breast milk, for a six-month period can be done for under US$60; research and development of microbicide gels (which a woman inserts in her vagina prior to intercourse, to kill viruses and bacteria) could remove the need to trust a man to wear a condom and give women more control over their sexual encounters; the search for vaccines is the great hope in combating the disease, but these still seem a long way from being developed.

Anti-retroviral treatment is an effective way of allowing people to live a mainly normal life while infected but, in many parts of the world, the drugs are still too expensive to be commonly used by sufferers. With this in mind, changing behaviour is still foremost in the minds of most politicians. The encouragement of condom use is an important aspect of this, together with targeting of migrant workers and refugees far from home who are more likely to indulge in risky sexual practices. Other behavioural strategies include enhancing the status of women and children, particularly orphans, who are at risk from predatory adults. A new thrust gaining ground in some African countries is to increase home ownership and electrification – providing people with their own homes gives them a long-term perspective which encourages them to avoid becoming infected, while electricity brings alternative leisure activities to sex.

Conclusion

The worldwide spread of the HIV/AIDS epidemic appears to be past its peak, but it is still a major worldwide health concern. Globally, the number of people infected continues to rise, reflecting both new infections and the success of drugs in keeping many of those infected alive for longer. Crucially there is huge geographic variation in the numbers of people infected and dying, with sub-Saharan Africa the worst affected, and increasing concerns over the growing numbers in countries including India and China. There have been some notable successes in prevention (eg Dominican Republic and Tanzania) and access to treatment programmes, and these are set to increase over the coming years.

Further reading

Barnett, T. and Whiteside, A. (2006) *AIDS in the 21st Century: Disease and Globalisation*, Palgrave Macmillan

Regan C. (2006) *Development in an Unequal World*, 80:20 Ireland

Smith, J. and Knill, R. (2008) *AQA Geography: AS Geography*, Nelson Thornes

UNAIDS (2009) *AIDS Epidemic Update*: November 2009, UNAIDS/WHO

Wearn R. (2009) *Circle of Life, Focus on Africa* October to December 2009, BBC Magazines

Web sources consulted include: news.bbc.co.uk, www.guardian.co.uk, www.avert.org, www.childinfo.org, www.nytimes.com, UNICEF and the World Health Organisation. The most up-to-date report on the state of AIDS globally is available from www.unaids.org.

Focus Questions

1. With reference to up-to-date figures, describe the current worldwide distribution of HIV/AIDS.

2. Explain the main causes for the spread of the disease and how they differ in relative importance around the world.

3. Using specific case study examples, describe and explain the effects that HIV/AIDS has had on countries in sub-Saharan Africa. You should refer clearly to both social and economic effects in your answer.

4. What are the main ways in which the spread of HIV/AIDS is being tackled, both through medical technology and at a grassroots level? Illustrate your answer with reference to named case studies.