

**Don't take on an empty stomach:  
why HIV treatment won't work without food**



**A Christian Aid report  
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We believe in life before death

## **Introduction**

HIV continues to have a widespread, negative effect on many countries. Young people of working age are most commonly affected, so HIV substantially hampers the economic development of some of the poorest countries in the world, and has left millions of children without parents.

Treatment for HIV exists. It is called antiretroviral therapy (ART), and it prevents HIV replicating, allowing a patient's immunity – and therefore their health – to be restored. With it, patients can lead normal, productive lives. To prevent the further spread of the epidemic and its effects, it is essential that people with HIV are provided with this treatment. If there were to be universal access to effective treatment, there would be a widespread improvement in the productivity of adults affected by HIV, and of their households; the number of children orphaned because of HIV would be limited; the need for costly hospital treatment would be reduced and the economies and overall human development of badly affected countries would improve.

Christian Aid has evidence from various countries that, while the rapid scale-up of access to ART currently underway is a positive thing, starting patients on ART when they don't have adequate nutrition is likely to lead to treatment failure. This report examines the need to ensure that people on ART are able to take their medicines with food.

### **The danger of treatment failure**

For patients on ART, some drugs have to be taken with food, so it is essential that they have an adequate diet, so that medicines are not taken on an empty stomach. Also some people on ART report increased adverse effects if they are unable to eat and this sometimes affects them taking medicines correctly. If – as explained below – they do not, the chances of them adhering to their drug regimens are greatly reduced, and the danger of repeated illness and the development of drug-resistant HIV are increased.

But recent analysis<sup>1</sup> suggests that only 60 per cent of patients using ART in sub-Saharan Africa were still taking their medication two years after starting treatment. For ART to work, a patient must continue it for life. If he or she fails to do so, the virus, once again unhindered by drugs, will have the chance to replicate; worse, it may mutate in a way that causes a resistant strain of HIV to develop – one that is unaffected by the drugs being used.

Once this has happened, so-called 'second-line' treatment is available. Second-line treatment, however, is harder to administer, and often costs ten times more than 'first-line' therapy.<sup>2</sup>

### **What is needed to make ART safe and effective?**

Failure to beat the problem of drug resistance could scupper the future of treatment programmes, causing widespread treatment failure and an increase in the global prevalence of drug-resistant viruses. As a recent WHO report states, drug resistance 'may result in the failure of the immense global and national efforts to

provide hope to people living with HIV'.<sup>3</sup> Ensuring good adherence to drug regimes is absolutely essential to any future efforts to fight HIV.

Achieving adherence to ART is particularly challenging. To prevent treatment failure, 95 per cent adherence is required. For patients to stick properly to their drug regimes, they need to have access to adequately stored medicines, to take all prescribed drugs on time and at the right time intervals, and, if their particular drug requires it, they need to be able to take their medicines with food.

### **Why is adherence not being achieved?**

For this report, adherence has been defined as the regular, sustained use of antiretrovirals, at the right frequency and dose.

The main barrier to adherence worldwide is the cost of ART.<sup>4</sup> The benefits of free access to therapy are therefore obvious. Free treatment alone does not, however, always mean better adherence. There are other factors, for example the transport and logistics costs borne by patients (such as taking time off work), user fees for healthcare, and fear of disclosure of a patient's HIV status. Recently, it has become widely understood that a further serious issue is preventing many people with HIV from adhering to their treatment – lack of adequate nutrition.<sup>5</sup>

The experience of Christian Aid's partner organisations bears this out. In a Christian Aid survey carried out with 12 partners working on care and support for people with HIV in six countries, lack of nutrition was mentioned as a major constraint to adherence by all partners in all settings. For example, partners have identified poor nutrition as a major problem for treatment programmes in the Democratic Republic of Congo (DRC), where one of the main challenges for care programmes is food support for ART patients. The Christian Aid/DFID-funded Community Action against HIV/AIDS in Congo (CAHAC) programme, implemented by AMO Congo and Fondation Femmes Plus, provides food assistance to those on ART. Until recently this was augmented in west and central DRC by the World Food Programme (WFP) – when WFP supplies were stopped, a decline in adherence to ART was reported.

### **Why is nutrition important?**

Christian Aid has substantial evidence from various countries that, while rapid scale-up of access to ART is a positive thing, starting patients on ART without ensuring full adherence through an adequate nutritional support system is likely to lead to treatment failure. Evidence suggests that people who receive food supplements recover faster than those who do not,<sup>6</sup> so ART access must therefore be just one component in a comprehensive package of care for people with HIV that includes nutritional support.

People with HIV may have greater nutritional needs, because their bodies are fighting to reduce their concentration of HIV virus; but HIV and inadequate nutrition reinforce one another in many other ways. When symptomatic, HIV causes food insecurity by making people feel ill and weak, and less able to work to get food. In turn, a lack of adequate nutrition can significantly worsen the health and quality of life of patients. Many lose weight because of chronic ill health – especially if they are co-infected with tuberculosis (TB), a common condition and the greatest killer

of HIV-positive people.<sup>7</sup> HIV infection can also reduce people's appetite and food intake because of candidiasis of the mouth or oesophagus, poor nutrient absorption, and chronic diarrhoea<sup>8</sup> – all of which can prevent a patient from feeding themselves properly.

Nutrition is also important where adherence to ART is concerned. Some ART medicines should be taken on a full stomach.<sup>9</sup> In other cases, proper nutrition lessens some of the unpleasant side-effects of antiretrovirals, which can range from mild to debilitating.

Many patients who recover from HIV-related infections because of ART – especially if they have had TB – have increased appetite. This can be a problem for poor households that already have trouble with adequate, regular feeding<sup>10</sup> – a situation frequently encountered in the work of Christian Aid's partners.

Patients in Sierra Leone, for instance, have spoken about how having enough food has helped them to take ART, reducing the side effects of the medication and increasing their body weight. In a Christian Aid study based on in-depth interviews with 96 people on ART, 54 per cent could only afford one meal per day, and 74 per cent would endure at least one day per week without any food. These patients reported that they found it more difficult to adhere to the treatment.

The situation is exacerbated by the fact that in most cases, people with HIV in Sierra Leone are widows with children, and/or breadwinners. This means they may have to share the little food support they get. As a young female in the study reported:

*'I prefer to delay my drug intake than starve my children. When food is not enough, I always go without and delay taking my drug.'*

Another female from Freetown agreed:

*'Some of us hardly get food to eat as our husbands are already dead, leaving behind the children. We, the HIV-positive mothers, are the ones taking care of the rest of the family. We prefer to let the children get the food, as they cannot fend for themselves.'*

Sierra Leone is not an isolated example. A study of 325 people with HIV in Kenya showed that 73 per cent reported having inadequate nutrition. Many admitted avoiding medication because they did not have enough to eat. In Zambia, people with HIV reported requiring food supplements, especially in the first four to six months of therapy.

### **Insufficient action**

The international community has made strong commitments to increasing access to ART generally – and these commitments have led to actions that have greatly increased the number of people with HIV receiving the drugs they need. While it is important to acknowledge successes so far, it is inescapably true that efforts until now have not been sufficient. In addition, advocacy and programme efforts have focused on expanding the numbers receiving treatment as opposed to ensuring

adherence. The issue of nutritional support for those on ART has not been sufficiently recognised or prioritised until very recently.

### **Insufficient coverage**

At the Gleneagles summit in July 2005, G8 leaders committed to universal access to ART, for all those who need it, by the year 2010.<sup>10</sup> Low- and middle-income countries have been supported by various organisations, including the UN, bilateral donors and non-governmental organisations (NGOs), in their efforts to rapidly increase access to ART.<sup>11</sup> Despite this commitment, and despite a global effort in the earlier part of this decade to get 3 million people on ART by the end of 2005 (via a WHO initiative called '3 by 5'), in January 2007 only 1.6 million people were on the life-saving treatment – 24 per cent of the 6.8 million patients that needed it.<sup>12</sup>

Predictably, this coverage is not evenly distributed; sub-Saharan Africa is now estimated to have more than 1.3 million people on antiretroviral treatment, with coverage of 28 per cent, whereas in East, South and South-East Asia, coverage is estimated at 19 per cent (13–28 per cent).<sup>13</sup> If current trends continue, only 4.6 million people worldwide would be receiving ART by 2010.<sup>14</sup>

This looks unlikely to change. According to a UNAIDS report,<sup>15</sup> US\$18.1 billion was needed to respond to HIV in 2007. Only US\$10 billion was available. For the target of universal access actually to be achieved, this report estimates US\$6.6 billion will be needed in 2008 for HIV treatment alone – and a further US\$18.1 billion for 2009 and 2010. These figures are not likely to be reached.

### **Recent moves to emphasise nutrition**

The international community is waking up to the importance of nutrition in the care of people with HIV. In 2005, the WHO called for 'nutrition to be integrated in HIV policies as matter of priority'.<sup>16</sup> More importantly, in June 2006, the Declaration of Commitment by the United Nations General Assembly Special Session (UNGASS) dedicated to HIV/AIDS, stated in Article 28 that:

'... all people, at all times, will have access to sufficient, safe, and nutritious food to meet their dietary needs and food preferences for an active and healthy life, as part of a comprehensive response to HIV/AIDS'.<sup>17</sup>

These pledges have not been translated into action. For example, in research by Christian Aid partners in Sierra Leone, care givers stated that ART is being delivered as part of a purely medical intervention, with little consideration given to the food and nutritional needs of people with HIV. Further research<sup>18</sup> has suggested that this failure is because of a lack of interaction between the authorities and agencies responsible for health, and those responsible for agriculture and food/nutrition.

The experience of Christian Aid's partners underlines the widespread findings of a number of different research initiatives: there is insufficient commitment from donors, national policy makers and civil society groups to addressing and solving this problem.

## Conclusion: what next for NGOs such as Christian Aid?

Suggested recommendations for nutritional interventions

### Including nutrition in treatment and care programmes

It is important for NGOs to include nutrition in HIV treatment and care programmes. This may be best implemented through community-based activities. There are four ways in which this can be done. Examples of most of these can be found in the programmes of more than 190 Christian Aid partners in 40 countries currently working on HIV.

- **Cash transfers and loans:** This is a method recommended by the WHO<sup>19</sup> in countries experiencing 'prevailing poverty'. A non-sustainable intervention that may not be enough by itself, it is nonetheless quick, and may be life-saving for many.

- **Food baskets:** The WHO also recommends the provision of food baskets at the start of ART to combat the excessive hunger that people with HIV, especially those initiating treatment, can experience.

Through its partner organisations, Christian Aid is making substantial efforts to integrate food and nutritional support into its care package for people with HIV. In Sierra Leone, Christian Aid partner the Methodist Church Sierra Leone (MCSL) currently provides nutritional support to people such as Musa Jimmy, an HIV-positive mother-of-four who struggles to get enough food, or Menamatu, a mother-of-four with eight dependants who recently lost her husband to an AIDS-related illness. '*Before MCSL and Christian Aid gave us the nutritional support,*' Menamatu says, '*there were whole days when we wouldn't eat. That used to stop me from taking my ART.*'

### Case study: Sierra Leone

- Less than one per cent of people with HIV in Sierra Leone are accessing ART, even when free of charge.
- There is little strategic consideration of food or nutritional needs of people with HIV in ART programmes.
- Many patients have been shown to be unable to meet their food and nutritional needs:
  - 54 per cent of people with HIV can only afford one meal per day, 45 per cent can afford two.
  - 74 per cent of people with HIV go at least one day a week without food, and 20 per cent have to spend more than two days each week without eating.
- Only 22 per cent of patients reported having good adherence to ART.
- Of those respondents who did not adhere, 83 per cent identified lack of food as the reason for not taking ART.

In Zambia, Christian Aid partner, the Archdiocese of Lusaka, provides nutritional support for patients within its programme and their families, and helps ensure a reliable supply of food for households.

The Catholic Diocese of Ndola (CDN), another Christian Aid partner in Zambia, gives food supplements to HIV-positive orphans such as 14-year-old Vestina, who lives with her grandparents and eight other orphaned cousins. *'When [home-based carers] started providing the food, there was a great improvement,'* says her grandfather. Before receiving food supplements, Vestina was in hospital twice a week. Now, she sometimes does not have to go in for a whole month.



Volunteer Arch Diocese of Lusaka (ADL) carers and health workers ensure Vestina, a small 14-year-old living with HIV and cared for by struggling grandparents, receives the nutritional and medical requirements she needs to stay healthy, happy and alive. Photo: Christian Aid/Felicia Webb

### Case study: Zambia

- The adult HIV-prevalence rate in Zambia is 17 per cent.
- ART is provided for free in Zambia, but even with this only 20 per cent of people with HIV receive treatment.
- Christian Aid's partner CDN currently provides ART to 1,500 people with HIV, as well as support for income generation and some nutritional supplementation for those on ART.
- According to research done by Christian Aid partners, people with HIV in Zambia identify lack of food as an important barrier to adherence to ART. The following interventions are proposed to remedy this:
  - provision of food supplements during the first four to six months of therapy
  - provision of agricultural support for those who grow their own food.

• **Savings and loans associations (SLAs):** SLAs are community-based initiatives that help ease food crises. A group of neighbours pool their savings; a member of the group is then nominated to borrow the money to start an income-generating activity. The person who borrows the money has to return it in a given time, at a given rate of interest agreed beforehand.

This model is currently being implemented by CDN, which reaches 1,500 people with HIV in Zambia, and Kenyan partner BIDII, currently supporting people with HIV in Kenya through a programme combining food supplements and SLAs. Christian Aid partner the National Council of Churches in Burundi (CNEB) provides income-generating activities for people with HIV. One example is ART patient Annociate, who has learned to make beadwork which she sells to help her buy food that is essential in keeping her healthy.

**Case study: Benevolent Institute of Development Initiatives (BIDII), Kenya**

- BIDII currently provides antiretroviral therapy to 50 per cent of patients involved in their HIV care programme and provides food support to six per cent of those.
- After their three-year programme is implemented (currently underway):
  - food supplements will be supplied to the patients most in need
  - appropriate food security and sustainable agriculture initiatives will be in place
  - 75 per cent of people with HIV on the programme will have secure and reliable food supplies
  - the implementation of income-generating activities will avoid people becoming dependent on the programme.

• **Sustainable agricultural programmes:** These programmes are long-term initiatives that aim to improve the capacity of people with HIV to grow their own food. Many Christian Aid partners are experimenting with small-scale agricultural and livestock programmes to enhance household nutrition. For example, the Ethiopian Orthodox Church (EOC) is currently delivering farming, agricultural and educational training as part of their programme of anti-HIV/AIDS clubs. This training has helped HIV-positive people to grow their own food, including establishing vertical gardens (see photo).



Small-scale agriculture in the middle of the Addis Ababa. The anti HIV/AIDS clubs are given training in farming and nutrition by EOC-DICAC. Photo: Christian Aid/Sarah Filbey

## **Research**

According to the WHO, there is ‘a tremendous need for basic, clinical and operational research on the myriad potential intersections between nutritional status and prevention, care and treatment of HIV, particularly in the context of high prevalence of food insecurity’.<sup>20</sup>

Christian Aid stresses the importance of investigating which of the above-mentioned interventions – or indeed any other – best achieves effective nutritional support in the context of antiretroviral treatment programmes. The ideal intervention would be cost effective, widely accepted, and one which greatly increases the quality of life of people with HIV.

## **Global advocacy**

NGOs should advocate for nutrition to be included in programmes that deliver ART, and for donors, agencies and authorities to make better use of Article 28 of the UNGASS declaration. In order for this issue to be properly tackled, the Overseas Development Institute<sup>21</sup> suggests that responses should not be restricted to the health sector, and that governments’ food and agriculture departments should also be involved.

Inequality issues must be dealt with so that poorer households benefit from any intervention that takes place. Countries should adopt harmonised approaches, undertaking the same strategy across the whole country, in order to take advantage of any synergies that may already be in place between different departments – for example, between health providers and agricultural authorities. Appropriate nutritional indicators should be developed for clinical and community surveillance, in order properly to assess treatment programmes.

Finally, governments, civil society groups and other relevant actors should work in partnership to ensure the inclusion of Article 28 as one of their targets for achieving universal access by 2010.

### **Summary: the issues and how to address them**

- There are currently 33 million people living with HIV in the world.
- 95 per cent of people with HIV live in developing countries.
- 6.8 million people with HIV currently need treatment.
- By 2007, just 20 per cent of the 6.8 million people infected with HIV in developing countries were receiving ARV treatment.
  
- In 2005, G8 leaders agreed on providing universal access by 2010.
  - This target will not be met if current trends continue.
  - More worryingly, recent studies have shown an average adherence of only 60 per cent in sub-Saharan Africa after two years of treatment.
  
- To improve adherence to treatment, ART must be:
  - given in combination with nutritional support to reduce side-effects, promote adherence and improve patients' health
  - free of charge at point of delivery
  - complemented with subsidies towards transport and other out-of-pocket costs
  
- Without addressing nutrition, some serious long-term issues will arise from lack of adherence that may undermine efforts to provide treatment.
  - Resistance will arise, rendering medicines ineffective.
  - More people will get sick as a result of HIV.
  - More people will die as a result of HIV.
  - Resistant strains of the virus will be transmitted, and eventually first-line drugs will become widely ineffective.
  - As a result of this, treatment programmes would be unaffordable to many countries. Currently, second-line drugs are often ten times more expensive than first-line medication.

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## Endnotes

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