Antiretroviral therapy in Zambia: Colours, ‘spoiling’, ‘talk’ and the meaning of antiretrovirals

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\begin{abstract}
We examine responses to the roll-out of antiretroviral drugs (ARVs) in Zambia in 2004, focusing on material features of the drugs (colour, shape, size, origin), ‘spoiling’ (concern about toxicity, side effects of the drugs) and rumours (‘talk’ about the drugs). Data consists of interviews with 10 people living with HIV and 21 healthcare practitioners. We found that the colour symbolism of ‘traditional medicine’ has some influence on ideas about ARVs, suggesting possible ‘meaning responses’ that could affect treatment outcomes. Respondents also become concerned when colours, shapes and side effects differ from expectations. ‘Talk’ about ARVs concerns risks of medication, sustainability of treatment programmes and people’s feelings of vulnerability within larger socio-economic contexts in which countries like Zambia are disadvantaged. Understanding the associations that pharmaceuticals evoke can improve treatment programmes by elucidating public and patient concerns and sensitising healthcare professionals to the historical and political circumstances that condition the ‘meaning’ of ARVs.
\end{abstract}

\section{Introduction}

This article describes a study conducted in Zambia in 2004 during the roll-out of antiretroviral (ARV) therapy for HIV/AIDS. We examined patients' and practitioners' attitudes to the material characteristics of pharmaceuticals, ‘spoiling’ (concern about treatment strength, sometimes manifested in the experience of side effects) and rumours (‘talk’). We hypothesised that earlier biomedical interventions, colour symbolism and everyday experiences of the political and economic factors that hinder people's search for effective treatment could influence perception and use of ARVs.

We asked people living with HIV (PLWH) and practitioners (biomedical and traditional) to describe their reactions to the recent provision of ARVs and their 'perceptible qualities' (Etkin, Ross, & Muazzamu, 1990, 922). We also asked about dosage and life-long medication and explored informants' knowledge of alternative therapies and their experience and management of side effects. Informants were asked to compare the appearance and side effects of ARVs with those of other pharmaceuticals used for common infectious or chronic diseases (namely...
Relief in Africa (PEPFAR). This has given hope to PLWH, by US funding – the President's Emergency Plan for AIDS. The government is now rapidly introducing ARVs, assisted most Zambians saw a diagnosis of HIV as a death sentence, 2002; Whyte, van der Geest, & Hardon, 2002). None, they may have heard about ARVs.

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2002; Whyte, Meinert, & Kyaddondo, 2002). Others discuss ARVs in resource-poor settings (Farmer et al., 2001; Rakbin et al., 2002; Whyte, van der Geest, & Hardon, 2002). None, however, use Zambians’ previous experiences with biomedical interventions to understand responses to today's roll-out or explore the significance of material characteristics, experiences of side effects and risks or the effects of the political economy of healthcare on concerns about ARVs. Our approach builds on studies of the introduction and interpretation of pharmaceuticals and their 'social lives' (Whyte et al., 2002) and studies of 'meaning responses' that can influence treatment outcomes (Moerman & Jonas, 2002). We also examine how the ARV roll-out in Zambia reflects wider contexts, situating medical experiences within the realm of social, political and economic relations and global inequities (Comaroff & Comaroff, 1999; Fairhead, Leach, & Small, 2006; White, 2000).

Background

Zambia carries one of the highest burdens of HIV/AIDS in the world. At the time of the study, the national prevalence for adults was 16%, rising to 23% in urban areas (UNAIDS/WHO, 2004). After nearly two decades in which most Zambians saw a diagnosis of HIV as a death sentence, the government is now rapidly introducing ARVs, assisted by US funding – the President's Emergency Plan for AIDS Relief in Africa (PEPFAR). This has given hope to PLWH, transforming HIV into a more manageable disease.

Price reductions by manufacturers, political will to improve access, the World Health Organisation’s '3 × 5 initiative' (an initiative to start three million people on ARVs globally by the end of 2005 (WHO, 2006)) and the Global Fund to fight AIDS, TB and Malaria enabled the Zambian government, late in 2002, to pilot treatment through two government facilities (Lusaka's University Teaching Hospital (UTH) and Ndola's Central Hospital), as well as through prevention of mother-to-child transmission (PMTCT) programmes in Lusaka (the capital) and Ndola (on Zambia’s Copperbelt), and through workplace programmes for police and military. This followed the late President Levy Mwanawasa's announcement that government aimed to provide 10,000 people with ARVs in the public sector (Garbus, 2003) – previously only available through private clinics. By the end of 2003 an estimated 3000 people received ARVs in the public sector (Zambia, 2006).

Early in 2004 the government introduced ARVs in nine provincial hospitals, planning to include a further 33 districts the next year. In May 2004, Lusaka District introduced ARVs at primary healthcare level into four Lusaka health centres, with the goal of reaching another six by the end of 2004. Patients had to pay approximately US$10/month – Zambia’s per capita income in 2004 was PPP$934 (UNDP, 2006). Our study was carried out September–October 2004 (four months into the roll-out at primary healthcare level) at UTH and in one Lusaka health centre, one provincial hospital and two rural areas where the roll-out had not yet begun. At the time, out of the estimated one million Zambians living with HIV and AIDS, at least 100,000 were believed to need ARVs. By September 2004 the Central Board of Health estimated that around 6100 PLWH had started ARVs nationally (Stringer et al., 2006); by the end of 2004, 24,000 were on ARVs (Zambia, 2006). National Treatment Guidelines developed in 2004 stipulated drug regimen and conditions of eligibility – using medical history, physical examination and CD4 count (Stringer et al., 2006). The guidelines have been revised for the third time in 2007 in 2007, to reflect changes in eligibility and drug regimens (MoH, 2007). Individuals with CD4 counts of less than 200/μl or those in WHO stage III or IV were started on ARV first-line drug regimens and offered enrollment in a district programme employing community treatment supporters to visit PLWH at home; PLWH also reported monthly to collect drugs, undergo a three-monthly clinical review and a six-monthly CD4 count (Stringer et al., 2006).

In June 2005, monthly payments were dropped – reflecting evidence they contributed to the relatively low uptake, and responding to political pressure and an additional injection of funds from PEPFAR, the Global Fund and others. ARVs have now reached all of Zambia’s 72 districts, available in over 107 public health facilities by the end of 2005 (WHO, 2005). By the end of 2007, 149,199 PLWH had started ARVs nationally (National AIDS Council, 2008). Until the recent scare with a contaminated ARV drug Viracept (IRIN PlusNEWS, 2007), public response to ARVs has been mainly positive, and HIV mortality has gradually declined (UNAIDS, 2006).

Interruption of treatment is widely acknowledged as the ‘Achilles heel of ARVs’ (Rabkin et al., 2002). Taking medicines on time at least 95% of the time is essential for long-term viral suppression – missing even a few doses can cause a rapid increase in viral load and development of drug-resistant virus (Rabkin et al., 2002). In Zambia, continuity of treatment is currently assessed through pill counts and self reports at the health centre. In a Lusaka cohort (April 2004–November 2005), of 16,198 PLWH started on ARVs, 75% (11,591) were alive and participating in the programme by November 2005, 1142 had died, 57 started ARVs nationally (National AIDS Council, 2008). Until the recent scare with a contaminated ARV drug Viracept (IRIN PlusNEWS, 2007), public response to ARVs has been mainly positive, and HIV mortality has gradually declined (UNAIDS, 2006).

Reviews of factors leading to interruption of treatment identify four types of variables: medical regimen, patient, provider and support strategies (Ickovics & Meade, 2002).
Our findings address dimensions of three: number of pills and administration of medication (medical regimen variables); beliefs about illness and effectiveness of medication and fear of and actual side effects (patient variables); and provider beliefs and provider–patient collaboration (provider variables). Indeed, our three research themes – material characteristics, concerns about ‘spoiling’ and the effects of rumours – speak to the importance of pharmaceuticals’ symbolic features for their effective use. For example, when marketing drugs directly to consumers, pharmaceutical companies pay close attention to characteristics that might suggest a drug is inappropriate for the targeted group, taking care to avoid ‘symbolic mistakes’ such as choosing a colour that offends group identity (Greenslit, 2002, 343). Some characteristics also carry meanings that evoke so-called ‘placebo effects’, more accurately described as ‘meaning responses’ that influence meanings that evoke so-called ‘placebo effects’, more accurately described as ‘meaning responses’ that influence treatment outcomes (Moerman & Jonas, 2002). Even in resource-poor settings where patients and practitioners cannot easily either choose or afford the medicines available for treatment, symbolic mistakes can lead to misidentification or inappropriate and (potentially) harmful use (Bledsoe & Goubaud, 1985; Etkin et al., 1990).

Methodology

We conducted the study at four sites in Lusaka (UTH, Chelstone clinic, Kamanga compound, Msisi compound) and in two rural districts (Choma in southern Zambia and Samfya in northern Zambia). We chose health facilities representing rural and urban contexts where PLWH and healthworkers had different levels of access to and knowledge of ARVs – UTH was the first government hospital piloting ARVs, Chelstone one of the four pilots for the ARV roll-out and Choma District Hospital one of the pilot district hospitals, whereas the clinics in Samfya district were not included in the initial roll-out. Traditional healers were selected for their varying degrees of familiarity with ARVs – the healer from Msisi compound had attended a workshop on ARVs, the healer in Kamanga compound was located close to Chelstone clinic, the healers in Choma district were aware of the district ARV programme, while the healer in Samfya lived in a site outside the roll-out. Both principal investigators also drew on previous research – one has worked on health histories in Lusaka and Samfya district since 1999. The other has conducted various studies of TB and HIV in Lusaka and Choma since 1999.

The study population (Table 1) comprised 10 PLWH – 5 women and 5 men – on ARVs from 4 to 18 months (some starting before the roll-out) and 21 practitioners, medically trained (16 – 13 women and 3 men) and practising traditional medicine (5 – 2 women and 3 men). Six PLWH were approached through the Network for Zambians Living with HIV (NZP+) and the HEAL project (an income-generating group for PLWH in Lusaka); three through Chelstone clinic; and one through Choma district hospital. Four PLWH had formal employment and 6 depended on irregular, informal work, belonging to a more vulnerable class. Two of the 10 PLWH were public about their status. The practitioners included 2 doctors, 1 clinical officer, 6 nurses, 1 midwife, a pharmacist and 3 community health-workers (2 dressers2 and 1 peer-educator). Most were directly involved in the delivery of ARVs at hospital and health centre level (within Lusaka and in Choma) except for 3 practitioners in Samfya district.

The study team included a social anthropologist, a medical historian and three translators, with two doctors available for consultation on medical and pharmaceutical data. The team was racially and ethnically mixed, with linguistic and ethnic backgrounds and work experience appropriate for the study sites. The interviews and discussions were lengthy (1–4 h, during 1 or 2 visits). At the end of each interview we asked if we had left out any important question or topic, and interviewees responded with additional information. All informants received follow-up visits for clarification of data and to comment on our initial analysis.

The materiality and ‘spoiling’ themes translated into questions about the significance of colour in pharmaceuticals and herbal traditional medicine; of shape, size, packaging and of writing found upon pharmaceuticals; questions about where the medicine is manufactured and locally obtained; and ideas around ‘spoiling’ (risks, side effects). We also asked about other medication taken for HIV; when and what informants first heard about ARVs; accessing and starting (referral, costs, tests, family involvement); different types of ARVs; problems with treatment, including side effects; the differences ARVs have made; and the future of ARVs. Questions about ‘talk’ explored what informants had heard about ARVs and whether they held similar concerns. Informants also volunteered information about ARV ‘talk’ when responding to other questions.

Photographs of pills, matrixes of side effects and roleplay were incorporated into the interview guides. We chose the pills for novelty/familiarity and to represent a range of colours, shapes, sizes and packaging. They included painkillers, multivitamins, antihistamines, antibiotics, anti-diarrhoeal medication and malaria, tuberculosis and HIV drugs. Colours included pink, white, red, dark brown, green, yellow, blue, red-and-black, orange-and-white, red-and-white. Oval, round and tube shapes, small and large sizes, capsules, tablets, and pills in and out of packages were included. ARVs included green oval tablets (Trizivir), yellow capsules (efavirenz) and round orange-and-white tablets (Lamivir). Informants were asked to sort the pill photographs into groups according to what they thought most important. This methodology, referred to as ‘pile sort technique’ (Pelto, 1992), aims to reveal local classification systems. If confused by this question, they were asked more specifically to group the pills according to strength, colour or diseases they treat.

In relation to malaria, TB, cancer, diabetes, epilepsy, herpes zoster, sexually transmitted infections (STIs) and HIV, the matrix examined the colour, shape, size, type, availability and storage of medication, length of treatment and side effects – joint pains, hunger, rash/skin changes,

2 A category of Classified Daily Employees (CDEs) – medical auxiliaries subordinate to nurses, mainly found in rural areas with staff shortages.
numbness, abdominal pains, nausea, vomiting, diarrhoea, change in body shape. The side effects were developed from previous research in Zambia with 184 TB patients who were asked to list side effects to TB treatment (see Bond, Tihon, Muchimba, & Godfrey-Faussett, 2005), from consultations with a Zambian doctor specialising in ARV treatment and from informal consultation with two PLWH. Role-play was used in the two focus-group discussions (FGDs) and the in-depth interviews with healthworkers, asking informants to act out how healthworkers explain ARV treatment to their clients.

Materiality of medicines

Material characteristics have received some attention in studies of pharmaceutical use in the developing world (Bledsoe & Goubaud, 1985; Etkin et al., 1990; van der Geest & Whyte, 1991; Richter & Vuckovic, 1994; Whyte et al., 2002, 5). Previous historical work has noted that colour can be important to African evaluations of a medicine’s efficacy (Vaughan, 1991), though few have pursued this insight (for exceptions, see Bledsoe & Goubaud, 1985; Etkin et al., 1990). In contrast, pharmaceutical companies routinely conduct market research in wealthy nations to discover responses to colour, shape and trade names, to make medicines appealing to Western consumers who exercise considerable choice and spending power (Roullet & Droulers, 2005).

Asked directly about the importance of the colour of medicine (biomedical and traditional), PLWH on ARVs in the urban site, as well as healers, stated that colour did not matter. PLWH said that for those who are sick, only the efficacy and strength (or ‘content’) of a medicine mattered, and healers said that what mattered was the illness’s cause. Colours, however, helped them to differentiate types of pills and, in traditional medicine, differentiate types of roots. PLWH were surprised if the colours of medication changed, and both groups saw red as signifying medication for blood in both traditional herbal treatments and in pharmaceuticals. This echoes research in Sierra Leone (Bledsoe & Goubaud, 1985) and Nigeria (Etkin et al., 1990).

In rural sites PLWH attached more importance to colour – white was associated with painkillers, yellow with malaria medication. The Hausa in Nigeria also see yellow medicine as efficacious for jaundice, a malaria symptom (Etkin et al., 1990). PLWH were familiar with the colour of traditional medicines, comparing colours of roots or water in which they were boiled with those of pharmaceuticals, though not explicitly linking them to treatments for specific diseases.

Healthworkers were more emphatic about colour, emphasising its usefulness for identification. Colour helps both healthworkers and patients to ‘know their drugs’. They found it confusing when drugs are the same colour – like paracetamol and septrin (both white) – or when the colour changes. One doctor explained that patients associated red and black with ampicillin, brighter or coloured pills with antibiotics (and strength), white with painkillers and malaria medication, and dark colours with multivitamins.

When giving examples, healthworkers often referred to red-and-black capsules. A rural midwife reported, ‘People can refuse if the medicine is not the colour they want – “No, we wanted black and red!”’ – which means they are used accustomed to that colour, they like that colour, they are convinced when you take that capsule you will be healed’. All informants recognised red-and-black capsules as ampicillin or as a powerful, familiar antibiotic.

Red, black and white often emerge as significant and symbolic within traditional medical understandings in Africa and elsewhere (Berlin & Kay, 1969; Jacobson-Widdendorf, 1979; Turner, 1969), which may influence some patients’ responses. Research in wealthy nations has shown that colour affects patients’ evaluation of a medicine’s strength – with red, black and other dark colours perceived as strongest. Colour may also determine a medicine’s ‘therapeutic class’ or reassure or create anxiety about its effects (Roullet & Droulers, 2005, 165).

Table 1

<table>
<thead>
<tr>
<th>Study population</th>
<th>Number</th>
<th>Sex</th>
<th>Ages</th>
<th>SES</th>
<th>Urban/rural</th>
</tr>
</thead>
<tbody>
<tr>
<td>PLWH on ARVs</td>
<td>10</td>
<td>5 women, 5 men</td>
<td>Women: 29, 30, 32, 37, 36. Men: 30, 31, 35, 40, 51</td>
<td>4 Formally employed, 6 dependent on informal sector</td>
<td>9 Urban (6 interviewed at UTH, 3 at Chelstone HC), 1 rural (interviewed at Choma Hospital)</td>
</tr>
<tr>
<td>Healthworkers</td>
<td>16</td>
<td>13 women, 3 men</td>
<td>Women: 27, 29, 35, 36, 37, 38, 40, 41, 44, 50, 50, 51, 54. Men: 25, 26, 41</td>
<td>15 Formally employed – 13 middle-income &amp; 2 low-income, 1 volunteer, paid an allowance</td>
<td>13 Urban (1 interviewed at UTH, 1 at Choma Hospital, 9 at Chelstone), 3 rural (Samfya)</td>
</tr>
<tr>
<td>Healers</td>
<td>5</td>
<td>2 women, 3 men</td>
<td>Women: 52, 53. Men: 30, 67, unknown, elderly</td>
<td>2 Relatively prosperous, 3 poor</td>
<td>2 Urban (Kamanga, Missi), 3 rural (Choma town, Mbabala, Samfya)</td>
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African studies have indicated the salience of pharmaceutical colours for perceptions of strength, therapeutic class and appropriateness (Bledsoe & Goubaud, 1985; Etkin et al., 1990; Kirby, 1997). The midwife’s assertion that ‘people think they are healed because of the colour’ suggests the kind of ‘meaning response’ described by Moerman and Jonas (2002). Red and black tablets carried associations of (respectively) ‘up’, ‘hot’, ‘danger’ versus ‘down’, ‘cool’, ‘quiet’; these differently coloured tablets (identical in composition) also influenced treatment outcomes – red acted as a stimulant and blue as a depressant (Moerman & Jonas, 2002, 472). In Zambia, historical experiences with the effectiveness of red-and-black ampicillin capsules, possibly in concert with the association of red and black with strength or danger in some African healing traditions, may give newly introduced red and/or black pharmaceuticals similar associations and potentially greater effectiveness.

Most of our informants attached more importance to other characteristics. All focus groups made a strong distinction between capsules and tablets – capsules being regarded as stronger, more effective (‘heals faster’), easier...
to swallow (‘more slippery’) and easier to digest (indeed, capsules are made from an easily absorbable protein substitute which also makes them more expensive), and seen as containing a ‘bitter’ powder akin to ‘injection medicine’. In other studies bitterness has been associated with injections, or with strength or appropriateness for certain illnesses such as stomach complaints (Bledsoe & Goubaud, 1985; Etkin et al., 1990). As one doctor in our study explained, this comes ‘from the way capsules were introduced in the country. There was a belief that capsules were similar to injections. In Zambia, they think it is for more serious infections’. The dressers said, ‘Many prefer capsules. If you give them medicines in capsules they have confidence, saying, “Since it is a capsule, I will be cured”’. Some expressed surprise that ARVs would be capsules or ‘fancy’ because of their reputed strength. Giving the example of Trimone (ARVs in small tablet form), he recalled, ‘[P]eople get shocked...

Letters or numbers on pills evoked ambivalent responses. For some they indicated strength (‘show grams to show power’) and helped to differentiate between pills of similar colour and shape, particularly white pills. ‘Our friends who don’t read, they know pills through the letters, markings and shapes. They do keep in mind knowing that panadol looks like this’, said a healthworker. Some PLWH remarked that ARVs do not have markings on them, though they did not associate this with any particular effects. Others thought letters or marking might cause suspicion. One healthworker said, ‘Some [patients] do refuse medicines which have markings or letters on them’.

The shape and size of pills also mattered. ‘If the shape is not good, they may not have it’, explained a clinical officer. Patients also associated a medicine with its pill shape when first introduced. One midwife said of erythromycin – initially in oval tablets – that ‘people know that, expect it and find it easier to swallow’.

Discussing pharmaceutical origins, both PLWH and a doctor agreed that attitudes to drugs manufactured in India had changed. The doctor said, ‘Although we used to think that drugs from India were cheaper and less powerful, now with ARVs this has changed. I am surprised with ARVs from India, which are more powerful than the drugs we get from South Africa’. The doctor went on to explain that when ARVs were first introduced and sourced from America, Britain and South Africa, they were too expensive and, thus, of no benefit – that is, they made little difference to the majority of PLWH in Zambia, who could not afford them. But now, with cheaper, more accessible generic drugs, more people are able to sustain treatment, and the drugs are therefore considered more potent. Potency here has less to do with inherent strength than with sustainability of treatment. Concern about sustainability was reinforced by PLWH who classified ARVs as ‘not very available or accessible’ due to the monthly payment demanded at the time of our study. Nevertheless, the growing availability of ARVs in the public sector is, in one doctor’s words, ‘a pleasant miracle’. A midwife reinforced this: ‘I thought that ARVs were going to remain [only] for Western countries and South Africa. I never thought that one day they would be available [in Zambia]’. Opinion differed only in the rural site where ARVs were still unavailable. ‘Western medicine has failed because it does not cure...

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Opinions also related sustainability of treatment to the economic and political power of different classes of patient. Informants everywhere told of how, prior to the ARV roll-out, rich government ministers were said to travel to South Africa to have their blood drained and replaced – to cure HIV – but only the rich could access such expensive therapies. Likewise, only the rich could access ARVs through private clinics.

These findings show that Zambians have expectations of pharmaceuticals based on material characteristics, associating some characteristics with familiar and effective drugs and wondering whether they are being given the correct drug when familiar characteristics change abruptly. Thus, new pharmaceuticals, such as ARVs, might arouse patients’ concerns about efficacy (if in tablet rather than capsule form) and cause concern if there is a mismatch between their colours and expectations about links between colour and disease (for example, red for blood diseases). Patients’ attention to material characteristics assists intelligent decision-making about treatment in resource-poor settings as well as in wealthy consumer societies. In Zambia, patients often move from clinic to clinic seeking better treatment, aware of drug shortages that mean they may not be prescribed the most appropriate or effective drug. Overstretched healthworkers may not explain a drug’s action in the body, leaving patients to rely on past experience of pharmaceuticals and their own traditional and biomedical knowledge to interpret side effects and efficacy after they begin treatment. The next section examines these interpretations.

‘Spoiling’

The ‘spoiling’ and side effects questions used in the study revealed a number of key perceptions about toxicity or efficacy. The two dressers felt that ARVS were very strong and that this strength was appropriate – equivalent to the strength of the disease. Concerns about potential toxicity, however, have created a market for alternative HIV therapies popularly called ‘immune boosters’. All study groups mentioned these alternatives, ranging from locally obtainable fruits, vegetables and herbs to products like Ngetwa 3 and Ngoka 11 from East Africa. Others, such as ‘Swisscard’, could be purchased in capsules or injections. Opinion was divided about combining these with ARVs; healthworkers worried about potential harmfulness. Interactions between pharmaceuticals and herbal medicines can be significant and either undermine or enhance pharmacological activity (Etkin et al., 1990).

All groups saw the side effects of ARVs as evidence of their strength and compared these to the side effects of septrim, TB drugs and fansidar (the latter until recently an

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3 Nichter and Vuckovic (1994, 1519) discuss issues of pharmaceutical strength, examining the consumer ‘double think’ inspired by drug advertisers – convincing consumers that a drug can be powerful and safe.
effective malaria medication commonly used in Zambia). Indeed, ARVs, followed by TB drugs, were considered to have the most side effects, ahead of medications for malaria, cancer, diabetes, epilepsy, herpes zoster and STIs. The most common ARV side effects reported were initial vomiting and diarrhea, followed by increase in appetite (referred to as ‘hunger’), weight gain (especially around the stomach), rashes, numbness and a change in the shape of the face (‘swollen lips’, ‘big cheeks’). These side effects were shared with TB treatment but ARVs were also associated with more positive side effects, such as renewed strength. One informant complained about the redistribution of weight, which looked like the early stages of pregnancy. Lipodystrophy – redistribution of fat – is a common side effect of the ARV regimen used in Zambia. This, along with general weight gain, can lead to stigma particularly for women (ACER, 2007). The hunger linked to ARVs is especially poignant in a country where 73% are classified as poor (CSO, 2002). Hunger has long been associated with TB medication – some in this study called it the ‘No. 1’ side effect. A limited number of TB patients in Zambia receive food aid during treatment (Bond, Mwenge, et al., 2005; Bond, Tihon, et al., 2005). The hunger associated with ARVs is now an emerging concern of HIV-advocacy groups in Africa (IRIN PlusNews, 19 August 2008).

When asked about potential toxicity of ARVs, most informants were pragmatic, saying any medicine is toxic if taken in excess. One healer said, ‘Overdose leads to spoiling’. A PLWH explained, ‘All conventional medicine has side effects. It is rare to find a pill without side effects, and they can all cause damage to your system if taken over too long a time’. One informant told of a friend living with HIV who would take TB treatment but would not take ARVs because ‘you couldn’t take medicine for life’. In the role-plays for the study, healthworkers pointed to other diseases that require life-long medication, such as diabetes or epilepsy. ‘It’s a pill like any other pill you have to live on’, stated a VCT coordinator. Life-long treatment, as one healer pointed out, is contrary to people’s experiences of medicines being taken for a limited period. Etkin et al. (1990) identified this as a potential problem amongst the Hausa, who stop taking pharmaceuticals when symptoms disappear, as do many people in the West.

Healers and PLWH also considered unnecessary medication dangerous. One healer said, ‘So if you have the disease, [it] will not spoil you, but if there is no sickness and you just take medicines, then you are bringing disease into your body’. A PLWH said that if one took ARVs without being tested for HIV first, ‘then, they can spoil you’. Others suggested that a person must know and accept he or she has a disease before treatment can work, exemplified in a healer’s account of how her spirits would not accept TB treatment, causing her to vomit up the medicine until other healers explained to her that the treatment can work, exemplified in a healer’s account of how her spirits would not accept TB treatment, causing her to vomit up the medicine until other healers explained to her that the treatment can work, exemplified in a healer’s account of how her spirits would not accept TB treatment, causing her to vomit up the medicine until other healers explained to her that the treatment can work, exemplified in a healer’s account of how her spirits would not accept TB treatment, causing her to vomit up the medicine until other healers explained to her that the treatment can work.

A PLWH in the early stages of ARV treatment voiced another concern: There is this talk that if you take too much ARVs you turn green – there is somebody who turned green after taking the ARVs. You think twice and become discouraged. One of the ARVs in the study took the form of green tablets (Trizivir), while a recently introduced South African immune booster is popularly said to turn people green (P. Ndubani, personal communication, 16 Sept 2005). Our informants linked ARVs with immune boosters, which they said were often prescribed together. Zambians are also aware of the South African debate over the toxicity of ARVs, where a health minister has promoted immune boosters as an alternative treatment and the previous President and other government figures have interpreted the biomedical focus on ARVs as being part of a Western conspiracy to distract from poverty as a cause of AIDS, thus promoting the interests of pharmaceutical manufacturers (Iliffe, 2006, 142–147). Thus, the fear of turning green links ARVs to debates about toxicity and Africa’s vulnerability in a global political economy of pharmaceutical marketing and western interests.

The use of immune boosters, like ARV-related weight gain, can publicise who is taking ARVs, as would any related change in skin colour. The young man’s concern about turning green, thus, resembles concerns about changes in skin colour used in the popular diagnosis of TB and HIV in Zambia – the darkening of a person’s skin said to occur with HIV infection, its lightening associated with TB infection, and turning from brown to black associated with the use of TB drugs.

Attention to colour also reflects colonial medical practices. Colonial doctors saw the dark urine of blackwater fever as a sign of imminent death. The Hausa, too, see changes in urine colour as evidence of a treatment’s efficacy, while both examples demonstrate that side effects have symbolic, as well as physiological, importance (Etkin et al., 1990). Colour change functions as both a side effect and a means to evaluate treatment efficacy or confirm a diagnosis – if the medicine that cures a particular illness is effective on symptoms then this confirms that the patient was suffering from that illness. Zambians have experienced interactions between these uses of colour during previous biomedical interventions. Mepacrine, introduced for malaria prevention during World War Two, gave skin a yellowish cast and evoked fear of impotence (Harrison, 2004). In Zambia, the mines introduced mepacrine in the mid-1930s (Fisher, 1969, 6). When malarialogists tested the drug on African children, miners’ wives suddenly withdrew their children from the experiment, likely because of skin colour changes or stomach upsets, another common side effect (Ross Institute, 1932, 38). For Zambians changes in skin colour can also evoke other colonial relationships: European nurses in the colonial period used the term ‘white babies’ for African children suffering anaemia, expressing their concern for ‘innocent’ babies supposedly suffering at the hands of ‘dirty and ignorant’ African mothers, whom they often excluded from the wards.

Thus side effects have meaning at three levels – as signs of strength or toxicity; as confirmation of diagnosis by revealing a medicine’s effective action; and as symbols of colonial and postcolonial power relations. Their interpretation by patients also demonstrates the patient’s active participation in the treatment process – making judgements about the risks and efficacy of medicines based on previous experiences with biomedicine and traditional medicine but also relying on knowledge of the way that medicine figures in power relations, both colonial and postcolonial. The next section investigates the ways that
‘talk’ about ARVs interprets and critiques these power relations.

‘Talk’

The healers in the study observed that having faith in the medicine was important for curing the disease. Lack of faith in medicine – especially novel pharmaceuticals – and suspicion of the purposes of treatment also emerged from the interviews. One informant, an elderly healer in rural Samfya, engaged in a common (though not universal) African analysis of the HIV/AIDS epidemic – that it and its remedies were designed by whites to kill Africans. ‘Medicine that comes from out[s]ide of the country, if it was me I would not be ordering the medicine because I don’t trust the white people…What they want is to finish us all completely – maybe even this disease [AIDS] came from them – it’s only that Zambia doesn’t have powers to do something…Maybe they add disease in the medicine because they don’t like us’.

Although most informants did not fear ARVs sourced from outside the country, some reported frightening rumours. ‘There [is] a lot of talk [going] around. They say the drugs can kill you – even make your condition worse’, a PLWH reported. A healer explained that novelty creates mistrust: ‘These pills are frightening because in Zambia they are not there, they come from abroad. But when you know the disease they treat, it is not a problem.’ Concern about novelty has characterised responses to the introduction of medication in the past, but fears of deliberate poisoning, as expressed by the first healer above, tell us that lack of familiarity is not the whole story. A nurse said that her clients suspected ARVs came from Satanists – Satanism accusations have escalated in Zambia since the late 1990s, often becoming more acute when white or coloured people are involved in medical research or interventions. These accusations point to African concerns about inequalities in biomedical research processes, based on experiences that reach back to the colonial period and are still relevant today (Bond, Mwenge, et al., 2005; Geissler, 2005).

Similar accusations have occurred in waves of suspicion between Europeans and Africans from the 1950s onwards – often expressing ‘perfectly the breakdown of trust in social relations’ (Epstein, 1992, 175). In the 1950s when Zambia joined the white-dominated British Central African Federation, poisoning scares periodically swept the country, in some rural villages stimulated by the arrival of unfamiliar whites (Epstein, 1992). Most Zambians opposed Federation, certain that white settlers would appropriate their land as they had done in Southern Rhodesia (Zimbabwe), the dominant country of the Federation.

The poisoning scares of the 1950s attached to foods such as sugar, linked to colonial exploitation and white control of vital economic resources – just as today, access to a vital therapy, ARVs, is outside the control of Africans and their governments, dependent on funding from donor countries. Another shared element is the idea of covert activity directed by a malign power – sugar poisoned by Federation forces or ARVs to which western manufacturers might secretly add poison. Common words for ‘medicine’ also mean ‘poison’, in Zambia as in many parts of Africa (Whytre, 1988, 218), and poisoning or cure depends on the supplier’s intent.

Satanist rumours can be analysed using White’s ideas about ‘vampire rumours’, a type of story sometimes attached to novel technologies in eastern and central Africa; she argues that these stories cannot be dismissed as superstitions, or anxieties ‘about colonialism, about technology, about health’, or ‘misunderstandings of colonial interventions’ – instead, they ‘explain what was fearsome and why’ (White, 2000, 5). Fairhead et al. (2006) go further, connecting blood-stealing fears in the Gambia with wider inequities current today – with European medical researchers benefiting financially and professionally within a context of African poverty.

The rumours mentioned by PLWH in our study describe what is fearsome about ARVs and why people have these concerns in today’s context of treatment. A typical Satanist rumour might claim that blood taken for HIV-testing is later sold to members of a Satanist church for use in rituals. Some healthworkers in this study said they must reassure patients that ARV drugs themselves do not come from Satanists. Concerns about Satanist churches are widespread (Chansa & Ntanda, 2006), and the ruling party in Zambia has also been accused of Satanism. As elsewhere, accusations of sorcery can be made against the powerful, not only against stigmatized minorities (Geschiere, 1997). These accusations arise in a broader national context of publicity about corruption and the collusion of politicians and church leaders with corrupt outsiders.

At the global level, ARV therapy and HIV tests become fearsome because of associations with funding from wealthy nations often considered to be exploiting African countries, personified in their expatriate research and implementation staff who accompany the roll-out. Common terms for ARVs are now ‘George Bush’ or ‘medicine from whites’ (musa mwoabakwa in Tonga) – linking them to the American PEPFAR initiative. These terms resonate with wider African concerns about US dominance in geopolitics and ‘white’ western dominance in international healthcare and medical research initiatives. Zambians know about the South African government’s accusations that pharmaceutical companies profit from delivery of toxic drugs to Africa (Iliffe, 2006, 146–147). At the national level health services for ordinary Zambians reflect more general political and economic inequalities (with government officials able to access high-quality treatment in South Africa). Healthworkers themselves see local services as inadequate, unreliable and frequently insensitive to the problems patients face in following treatment regimens (Fonn et al., 2001, 21). When ARVs are prescribed and dispensed in this political and economic context patients reasonably fear that treatment might not be efficacious or appropriate. And as in the West, these fears are sometimes confirmed – recently in Zambia, the pharmaceutical company Roche announced that some batches of Viracept (an ARV used in second-line treatment) had been accidentally contaminated with mesylate (which can cause cancer and genetic mutation); the drug was immediately discontinued (IRIN PlusNews, 19 June, 2007).

Most of all, informants worried that the supply of ARVs will dry up – if so, one PLWH said, he would ‘be killed’.
According to the dressers, the ‘bad’ thing about ARVs ‘is that people will not afford buying forever’, while a healer spoke about the problem if ‘drugs are finished’. The dressers justified their fears with reference to past experiences: ‘They were telling people ARVs are available – but now the price! Like this medicine for rabies – a lot of experiences: ‘They were telling people ARVs are available – but spoke about the problem if ‘drugs are finished’. The that people will not afford buying forever’, while a healer According to the dressers, the ‘bad’ thing about ARVs ‘is that people will not afford buying forever’, while a healer spoke about the problem if ‘drugs are finished’. The experiences of ARVs: ‘These days people have been taught in all far areas, in forest, in fishing camps’. Like ARV fears, ARVs’ positive meanings reflect national and global contexts – one healthworker spoke of formerly bedridden colleagues coming back to work and said, ‘Now we can improve the country!’ Another said, ‘I don’t have to be afraid because now ARVs are there for HIV’. Many placed the onus on government to ensure sustainability, reflecting experiences with TB – one of the five components of the TB DOTS (directly observed therapy shortcourse) strategy is government commitment. According to one doctor, if government is willing, the future is bright – ‘It is simply the will’.

Our study reflects very early responses to the ARV roll-out – a dynamic situation in which new and powerful pharmaceuticals are being rapidly ‘indigenised’, incorporated into local understandings of medicines, health and disease (Etkin et al., 1990, 925). Today, the ‘meaning of ARVs for Zambians is largely positive, though the recent Viracept scare could threaten this. Research into these evolving responses must continue in an on-going relationship with the roll-out of treatment programmes. Respecting the depth of Zambians’ experiences with medicine and listening to their concerns is crucial to the success of ARVs.

**References**


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4 See Foster (1994) for pragmatic use of treatments later validated by reference to humoral medicine.
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