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Longevity in HIV+ mothers: the need to promote health, household food security and economic empowerment to ensure family survival in Southern Africa

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The subordination of women in African society, in the face of the HIV/AIDS pandemic, is causing their premature deaths and resulting in the break-up of millions of families throughout the continent. The subsequent creation of a generation of root-less, traumatised children has serious consequences for the future stability of many countries in Africa. While attention is focused only on prevention of infection and care of the dying, the possibility of prolonging the healthy and productive lives of HIV-infected Africans, especially mothers with young children, is being neglected.

More than twelve million women and ten million men were living with HIV in sub-Saharan Africa by the end of 1999 (UNAIDS and WHO data). The fact that the number of HIV-infected women out-numbers the number of HIV-infected men is a pattern not seen on other continents of the world. The vast majority of these people are living in rural areas, where they are subsisting on various forms of agriculture. Southern Africa has been hardest hit by the crisis, because of the mobility of the male work force, peaking in Zimbabwe where the infection rate is currently at 26% and rising (National AIDS Co-ord. Prog). According to Gregson *et al* (1996) it is the men who normally acquire infection first and subsequently pass it on to their wives who are based in their rural homes. Many local traditions, which discriminate against women, including polygamy and lack of female rights over their children (Page, 1999) have made women particularly vulnerable.

For a woman living in the rural areas, the first time she realises that she may be infected with HIV is when either her husband or baby dies of an AIDS related disease. As a smallholder farmer widowed by AIDS, her prospects for survival with HIV are grim and she can expect to begin developing AIDS related infections within two years.

According to Chaitow (1999) AIDS has six stages of development (table1). The initial infection is followed by an "asymptomatic" period during which time the activity of the virus can be regulated to some degree by "conserving" the immune system. In developed countries, HIV positive people can live healthy, asymptomatic lives for more than 15 years, without retroviral drug therapy. In Africa this

period lasts, on average, between four and seven years (Jackson, pers.com.) and may be even less for HIV positive people living in extreme poverty (Iliffe, pers.com.). This huge difference in life expectancy is attributed the differences in live style and diet between affluent Westerners and poverty stricken Africans. African women are particularly at risk as they are constantly exposed to a range of agents, which actually suppress immune function.

Table 1.

The stages of AIDS (Chaitow, 1999)

1. **Contact with HIV** – antibodies to virus are produced causing fever, rash, swollen glands and possibly some nervous system symptoms.
2. **More or less symptom-free period** of up to 15 years or more. Levels of CD4+ protein marker more than 500 per ml of blood.
3. **A drop in CD4+ count** to between 200 and 500/ml make patient liable to infections such as tuberculosis, herpes, candida yeast and salmonella and a range of other symptoms such as skin rashes, night sweats, blood platelet disorders (thrombocytopenia) and rarely skin cancer (Karposi's sarcoma). These illnesses can all be successfully treated provided that the patients can afford the medication.
4. **AIDS related complex** – CD4+ levels drop to between 100 and 300/ml. Symptoms include diarrhoea, weight loss enlargement of the spleen and liver or both, recurrent fevers, recurrent infections of the mouth and throat (often involving yeast) shingles (*Herpes zoster)* repeated salmonella infections, lesions in the mouth known as hairy leukoplakia and Kaposi's sarcoma. All difficult to treat.
5. **Early AIDS** as levels of CD4+ fall to below 200/ml. Now more serious illnesses occur including *Pneumocystis carinii* (PCP) pneumonia, cryptococcal (fungal) meningitis, mouth and throat candidiasis (yeast infection) herpes in various parts of the body, almost constant diarrhoea and various infections affecting the brain and nervous system.
6. **Advanced AIDS** where the CD4+ level T-cells drop to below 50/ml and may reach zero and the same disease symptoms occur, most notably PCP pneumonia, severe weight loss, retinitis caused by *Cytomegalovirus*, widespread infections involving *Mycobacterium avium*, Karposi's sarcoma on internal organs, disease of the spinal cord and dementia.

Causes of Immuno-Suppression in Rural Women.

Causes of immuno-suppression in African women, which hasten the conversion to full-blown AIDS, are fundamentally due to poverty, traditionally-based inequality and the drudgery of farming. These

can be summarised as follows;

- Poor diet.
- Exposure to other infections.
- Successive pregnancies.
- Re-infection with STD's and HIV.
- Exposure to organophosphate pesticides.
- Fatigue due to hard labour
- Anxiety due to poverty and family rejection.

Poor Diet

A healthy diet is regarded as the primary defence against rapid degeneration of the immune system. There is no doubt that food crops that are indigenous to Africa, such as finger millet, bulrush millet, bambara, cowpea and pumpkin are extremely nutritious, and could contribute to a diet which would promote good health in HIV positive people. Unfortunately, these crops have been marginalised in countries, such as Zimbabwe, where smallholder agriculture has been commercialised. Low input-requiring food crops that cannot be propagated by seed, including cassava, sweet potato and taro, are of low priority with local research and extension. While Zimbabwe's agro-chemical industry, especially the major seed companies, have played a major role in influencing government policy, in their efforts to promote hybrid maize as the main food staple. As a result, most people, in both the rural and urban areas, now subsist on a monotonous diet of refined maize-meal sadza and rape. A diet which is lacking in all the major nutrients (Page & Page, 1991).

Table 2 shows the list of vitamin and mineral supplements that are recommended for people living with HIV and the best sources of these nutrients for most Africans. Most of these nutrients are antioxidants, the most important being vitamins A, C, E and the minerals zinc and selenium. Vitamin B complex, essential fatty acids plus acidophilus and bifidobacteria are also recommended to enhance the nervous system and protect the bowel from infection (Chaitow, 1999). In order to absorb the recommended daily dose of each of these nutrients massive amounts of each foodstuff must be consumed every day. For example, the recommended daily dose of Vitamin C is 1-4 g. This is contained in 1 kg of fresh guavas. Up to 1 kg of bambara groundnuts must also be eaten each day in order to assimilate the recommended amount of B vitamin complex. Furthermore, according to Gooch (pers. com.) granitic soils in southern Africa are deficient in zinc and selenium and therefore these minerals are unavailable in a local diet. This means that HIV+ people are advised to buy vitamin and mineral supplements from private pharmacies (they are currently unavailable in most government clinics and hospitals in Zimbabwe). However, the current cost of these preparations in Zimbabwe is approximately US$15 per month and thus out of reach of rural women.

Table 2.

Recommended Nutrients to Enhance the Immune System.

Supplement	**Recommended Daily dose**	**Best Natural Source**	**Amount to be eaten per day**
Vitamin A (beta carotene)	15mg	Mango, pumpkin and dark green leafy vegetables	200 g
Vitamin C	1 – 4 g	Guava	1 kg

Vitamin E	50 – 100 mg	Whole grains, dark green leafy vegetables	300 – 500g
Selenium	100 ug	Not available	-
Zinc	30 - 50 mg	Not available	-
Essential fatty acids	1 – 3 g	Groundnuts	100 g
Probiotics	0.5 – 1 g	Fermented milk	500 ml
Vitamin B complex	10 – 100 mg of each B vitamin	Bambara	100 – 1,000 g

Exposure to other infections

Parasitic diseases such as malaria and bilhartzia are on the increase in most parts of Africa.

Other common diseases include infections of the intestine, due to the problems of poor hygiene and contaminated water. Many of these diseases go untreated in rural women, as they cannot afford the medication.

Successive Pregnancies

Childbearing is known to suppress the immune system. However, there is a great deal of pressure on women to produce many children. This is because the tradition of "lobola" or brideprice that is paid by the husband's family. This not only compensates the wife's family for the loss of her labour, but also gives the husband and his family complete rights over her children. It is common for African women to be divorced if they are unable bear children. Furthermore, in Shona culture men and women can only be accepted as adult members of society once they have produced a child. Linked to this is the belief that after they die, childless people are not fully accepted into the "spirit world".

Re-infection with STD's and HIV.

Rural women are at risk of multiple infections from sexually transmitted diseases if their husbands continue to be unfaithful. The use of male and female condoms is being widely promoted as method of HIV/AIDS prevention. While this protection may be used in some casual sexual liaisons, it is unlikely to be used between married couples because of the need to conceive. Women who are infected with STD's are unlikely to seek treatment from rural clinics for fear of being humiliated by nurses.

Table 3.

Division of Farm and Household Tasks between Women and Men in a Cotton-Growing Area of Zimbabwe		
Task	%Women	%Men
Farm planning and decision-making Buying cotton seed	20	80
Sourcing small grain seed (for food crops)	25	75
Herding livestock Ploughing Clearing bush	75	25
	25	75

Planting cotton and maize	40	60
Planting food crops	20	80
Thinning cotton	50	50
Weeding*	25	75
Conventional scouting in cotton	25	75
Buying pesticides	75	25
Fetching water for mixing with pesticides*	15	85
Mixing pesticides with water*	25	75
Spraying cotton with pesticides*	10	90
Guarding fields against wild animals and livestock	50	50
Picking cotton*	50	50
Pre-grading cotton*	5	95
Baling cotton*	75	25
Transporting bales to depot & receiving payment	80	20
Harvesting maize	100	0
Shelling maize	75	25
Harvesting traditional food crops	25	75
Storing food crops	100	0
Repairing granary	85	15
Smearing cow-dung over granary walls	100	0
Applying chemicals to stored grain*	85	15
Winnowing of grains*	80	20
Grinding of grains	0	100
Cutting down old cotton stalks	100	0
Labouring off-farm for cash*	90	10
Labouring off-farm for food*	40	60
Cooking food	80	20
Carrying firewood*	98	2
	5	95

Carrying water*	95	5
Washing dishes and family clothes	90	10
Repairing huts	100	0
Child care		
Taking children to the clinic		
Caring for the sick*		
* *Immuno-suppressing activity*		

Exposure to Organophosphate and Carbamate Pesticides

Sharma and Tomar (1992) and Rodgers et al (1992) have reported immuno-suppression by organophosphate and carbonate pesticides. Extremely toxic pesticides are applied by women and children in many African countries. While male farmers are afforded some degree of protection through the wearing of overalls and gum boots, women and children are not usually protected at all. This is because children are too small to wear protective clothing and women cannot wear overalls for cultural reasons. Farmers at most risk from pesticide poisoning are those who produce cash crops such as cotton and horticultural produce. In Zimbabwe, malathione, dimethoate and monocrotophos are the most commonly used organophophates in these farming systems. For women there is an additional risk from their task of winnowing grains (table 3) which have been stored with the grain protectant, pirimiphos-methyl, as this is also an organophosphate. The consumption of vegetables that harbour pesticide residues is also a common problem in the rural areas.

Fatigue Due to hard labour

Extreme tiredness and fatigue will put extra stress on the immune system. Table 3 lists the common farm and household tasks and how these are shared between women and men in a cotton growing area of Zimbabwe. It is clear that women in this area are responsible for most of the strenuous work, including planting, fetching water, harvesting food crops, winnowing, labouring off-farm for food, household chores, child care and care of the sick. Such demanding physical activity is probably a major cause of immuno-suppression.

Anxiety Due to Poverty and Family Rejection.

Table 3 also indicates how women in Zimbabwe are systematically excluded from the local cash economy. Furthermore, women do not have land rights in the communal areas, while extension advice on the production of cash crops is usually only given to men. Rural women are thus under the financial control of their husbands, who may not give the same priority to all their wives and children. Many rural women are living in extreme poverty and once their husbands die of AIDS related disease, may become destitute as a result of paying medical expenses and funeral costs (Page, 1999a). As mothers these women are constantly worried about having sufficient food and money for their children's school fees (Page, 1999b). There is widespread evidence that many AIDS widows are ostracised by their neighbours and even by members of their own family. Such ignorance is bound to lead to severe depression amongst victims. There is evidence that stress can be a major factor in immuno-suppression (Fellen, 1993).

The Consequences of Premature Death Amongst HIV-Infected Women.

The numbers of orphans in Africa is increasing at an alarming rate. By the end of 2000, it is expected that 13 million children will have lost a mother or both parents to AIDS, with more than 10 million of

these being under the age of fifteen. In southern African countries the number of orphans is fast approaching ten percent of the total population (UNAIDS/UNICEF, 1999).

At the beginning of the pandemic orphaned children were cared for by members of their extended family, normally co-wives and grandmothers. But as the numbers increase this traditional support system is breaking down and many households are now headed by children, some as young as 10 years (Foster *et al*, 1995).

In the rural areas, orphaned children normally drop out of school and suffer from illness and wasting due to malnutrition. However, these problems are far outweighed by the psychological effects of loosing one or both parents at an early age. According to Swift (pers.com.) all young children are ego-centric. These means that when they are orphaned they suffer from the following negative emotions;

- Feelings of abandonment and of being "abandonable".
- Feelings that s/he is to blame for the desperate situation.
- Fear, depression and an inability to develop close relationships with other people.
- Withdrawn and antisocial behaviour such as aggression, stealing and promiscuity.

Due to their lack of nurturing and failure to adopt traditional values, AIDS orphans, as adults will make poor parents. This will result in a new generation of children who will not only be alienated from society but, as a group, may also become a threat to peace and security in Africa.

All those who have worked in community care will recall the anguish on the faces of children watching their mother die of AIDS, or the pain of watching a young woman dying while listening to her relatives argue over what is to become of her children. The most basic human right for a young child is to be with its mother. Millions of mothers must not be allowed to die in misery, without seeing their children grow up. If the lives of HIV+ mothers could be extended from five to fifteen years then they could continue to nurture their children at least until adolescence. These women would eventually die in peace and dignity, in the knowledge that they have been given the best chance to full-fill their lives and contribute to the long-term upbringing of their children.

Recommendations for Improved Longevity in HIV+ Mothers.

These are as follows;

- Access to appropriate information.
- Access to counselling and HIV testing.
- Access to nutrient supplements.
- Promotion of support groups for women.
- Distribution of appropriate planting material for sustainable food crop production.
- Support in the production of pesticide-free food and cash crops.
- Support in the processing of cash crops.
- Access to markets.
- Access to micro-credit.

Access to appropriate information.

Although there is a wealth of information available on HIV/AIDS, it is almost all on prevention of infection. There is very little information concerned with living positively with HIV for people in the rural areas. This problem needs to be addressed so that women can assess their risk and detect the first signs of HIV infection either in themselves or their family. They also need information on diet and recommended food supplements.

Access to counselling and HIV testing.

It is of crucial importance for concerned women to know their status regarding HIV/AIDS. The earlier the infection is confirmed the sooner women can attempt to reduce the risks of immuno-suppression.

Access to nutrient supplements.

There is need for nutrient supplements that are recommended for HIV positive people to be heavily subsidised in Africa. These supplements are currently administered by WHO, but only to Africans who are dying of AIDS. Apparently healthy, HIV positive people also need these nutrients and they should not only be available in clinics but also in shops and community centres.

Promotion of support groups for women.

Community support groups offer the best hope for women who are seeking to protect themselves from infection or live positively with HIV. The most popular official meeting places for women are the many churches that are scattered throughout the rural areas in Africa. These organisations are already doing a great deal of work on AIDS prevention and the care of the dying. They could also play an important role in supporting women who are living with HIV. Other community-based organisations such as schools and NGO project offices can also foster support groups for women.

Distribution of appropriate planting material for sustainable food crop production.

Indigenous food crops that have a low external input and labour-requirements, such as cassava, sweet potato, sorghum, millet, bambara and fruit trees, should be encouraged. Planting material can be shared among different communities through the promotion of seed fairs. International NGO's should consider funding the multiplication of these food crops so that they can be distributed to all HIV/AIDS affected areas throughout Africa.

Support in the production of pesticide-free food and cash crops.

International agreements regarding the safe use of pesticides should be observed and the use of immuno-suppressing pesticides, notably organophosphates and carbamates, should be banned in AIDS affected areas. Alternative methods of pest control such as the use of tolerant and resistant crop varieties, crop rotation, mixed cropping, conservation of natural enemies, biological control and the use of natural repellents and herbal insecticides should be mainstreamed within national research and extension programmes.

AfFOResT is a local NGO in Zimbabwe that promotes community-based Farmer Field Schools for the production of organic food and cash crops. These Farmer Field Schools have attracted many AIDS widows who are keen to grow cash crops without having to buy expensive inputs (Page, 1999b). ***AfFOResT*** has developed systems for the production of organic vegetables and cotton without any significant drop in yield by smallholder farmers who had previously been heavily dependent on conventional pesticides. There are many other NGO's throughout Africa who are supporting various forms of low input agriculture and these should be documented and more widely promoted by international agencies. There is also a need for local government research and extension institutions to re-orientate their policy towards farmers living with HIV as well as AIDS survivors (Page, 1999b).

Support in the processing of cash crops.

In order to empower rural women economically they need training and support in the processing of cash crops to a standard, which is acceptable in both local and overseas markets. Agricultural products that can be processed at community level are peanut butter, honey, sun-dried vegetables, sunflower oil and soap. Such products can be sold under the "fair-trade" label and would find a lucrative market in Europe.

Access to markets.

Access to local and international markets is crucial to a policy of "development through trade". For African women farmers to enter the global economy they must be well organised in terms of financial management, the maintenance of high standards of quality and negotiating with buyers. This level of self-reliance requires organisational skills that can be imparted through "training for transformation" (Friere, 1972). This is a long-term process, which facilitates the individual empowerment, democratisation of leadership selection and organisational development amongst poor communities.

Access to micro-credit.

Successful economic empowerment of women depends on the availability of micro-credit. That is small interest-free loans that will enable groups of self-reliant women to build up small-scale, community-based business enterprises.

Conclusion

African women, as mothers and farmers, have in the past, been responsible for household food security and family survival. Only a massive, integrated effort by the international community can now give the millions of women who are now HIV positive the support they need to enable them to claim their right to at least the same life expectancy as those who are successfully living with HIV in western countries.

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