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CONTEXTUALISING THE PAEDIATRIC HIV EPIDEMIC: A REVIEW

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ABSTRACT

Objective: To draw attention to the sub-optimal care that HIV-infected children are receiving in Africa.

Data sources: Relevant published literature.

Data synthesis: Sub-optimal response to paediatric HIV infection has aggravated the negative impact that the epidemic has had on child health in Africa. Recently the African Network for the Care of Children Affected by HIV/AIDS (ANNECA) released an advocacy statement that called for the optimisation of prevention, diagnosis, treatment and care for children affected by the AIDS pandemic. Effective prevention strategies if comprehensively implemented, could prevent more than 500 000 paediatric infections per annum at current antenatal HIV prevalence rates. Improved care that includes universal utilisation of early diagnostic testing systems, cotrimoxazole prophylaxis, nutritional support and the timely introduction of antiretroviral therapy could improve the quality of life and lifespan of most infected children.

Conclusion: Political leaders, public health officials and fellow child health professionals are urged to redouble their efforts to reverse the magnitude of the paediatric epidemic in Africa.

INTRODUCTION

The paediatric HIV/AIDS epidemic has been catastrophic for the African continent. At the end of 2005 UNAIDS estimated that more than two million children less than 15 years of age were living in Africa with HIV infection (1). In 2005 more than 600 000 new paediatric infections occurred in Africa. The majority of these infections were acquired through mother-to-child transmission. Youth aged 15 to 24 years are most threatened by the HIV pandemic, accounting for an estimated 50% of all new infections. In Africa, heterosexual intercourse is the main mode of transmission among youth. Young

women are at a higher risk of infection due to greater biological vulnerability, gender power imbalances, and coerced sexual relationships especially with older men (2).

Children under the age of 18 years who have been orphaned by HIV/AIDS are found throughout the world. More than 12 million children in Africa have already lost one or both parents and by 2010 this figure is expected to exceed 18 million. The emotional, psychological, social, economic, educational and societal consequences have been enormous (3).

The natural history of paediatric HIV infection follows a relentlessly downhill course. By

one year of age an estimated 35% of infected children have demised and by their second birthday more than 52% have died (4). Primarily because of HIV/AIDS the under-five mortality rate, a reliable measure of child health, has deteriorated in most African countries (5).

ANECCA AND THE PAEDIATRIC EPIDEMIC

The paediatric epidemic is a major public health challenge that demands a comprehensive response. The African Network for the Care of Children Affected by HIV/AIDS (ANECCA) was established in 2001 with the aim of advancing care for affected children in the continent. Its members are based in 35 African countries and are mainly paediatricians. The position of ANECCA on the paediatric epidemic is set out in the following advocacy statement.

ADVOCACY STATEMENT

There is a clear international commitment to provide children affected by the HIV pandemic with optimal care, utilising modern medication and technologies. This commitment should be translated into concrete quantitative targets guided by clearly defined policies, operational strategies and treatment recommendations and underpinned by adequate funding.

We call upon our governments, leaders in public health policy, health care providers, private organisations, faith-based and non-governmental organisations, and civil society, to join us to make HIV prevention, treatment and care a reality for all children in Africa. There is an urgent need to integrate all aspects of care with maternal child health and primary health care programmes. In particular:

With respect to the prevention of HIV transmission

- (i) Ensure the availability of routine HIV counseling and testing for all pregnant women
- (ii) Provide antiretrovirals and technical, infrastructural and logistic support needed for successful PMTCT programmes in both rural and urban settings

With regard to care for HIV-exposed and infected children and their families

- (i) Prioritise and promote child-focused HIV/AIDS care through capacity building at all levels of the health system; and through pre- and in-service training
- (ii) Expand access to, and actively promote utilisation of HIV diagnostics for all children at risk of HIV infection, including virological testing for infants and younger children
- (iii) Implement appropriate opportunistic infection prophylaxis for HIV-exposed and infected children
- (iv) Initiate free access to antiretroviral treatment programmes for all HIV-infected children
- (v) Ensure a regular supply of appropriate opportunistic infection and antiretroviral drug formulations for children and their families
- (vi) Consider the special needs and vulnerabilities of adolescents
- (vii) Nurture partnerships that encourage social, psychological, nutritional and food security support for affected children, their families and communities

“ANECCA members and affiliates believe that no matter what your level of resources, there is always something that can be done for HIV-affected children.”

THE KEY CHALLENGES

To give effect to the policy position adopted by ANECCA and mount an appropriate response to the paediatric epidemic in Africa the following key challenges should be urgently addressed.

Comprehensive prevention: Paediatric HIV infection is highly preventable. Comprehensive prevention of mother-to-child transmission (PMTCT) is the single, most effective strategy for reducing the size of the paediatric epidemic. In the absence of preventive measures, 30-45% of infected women will transmit the virus to their infants during pregnancy, labour and delivery, or postnatally during breastfeeding (6). Sadly less than 10% of pregnant women in sub-Saharan Africa have access to these interventions. Where PMTCT programmes do exist little is known about their effectiveness (7). Recent clinical trials have

demonstrated the enormous potential of PMTCT interventions. The Thai PHPT-2 study showed that by combining single dose nevirapine with a standardised zidovudine based PMTCT regimen in women who do not breastfeed their infants, the transmission of HIV from mother-to-child could be reduced to approximately 2% (8). The WHO has recommended that this regimen and others be used for infected, pregnant women who do not require highly active antiretroviral therapy (HAART) for their own health. For pregnant women who qualify on clinical and/or immunological grounds, HAART should be prescribed (9). At current HIV prevalence rates, application of these preventative approaches throughout Africa could prevent 500 000 or more paediatric infections per annum.

Other modes of prevention that would impact positively on the paediatric epidemic should be strengthened, particularly the disruption of heterosexual transmission in women of childbearing age, reduction in unplanned pregnancies in HIV-infected women, and reduction of the risk of infection among adolescents and youth. Intensified HIV prevention strategies throughout the continent are absolutely critical to control the heterosexual epidemic and hence reduce the paediatric disease burden. Recent epidemiological evidence indicates that declines in the adult HIV prevalence appear to have started in Kenya, Uganda and Zimbabwe (1). Prevention programmes must consider local contexts and target groups at high risk for HIV infection including all women of childbearing age, their male partners and youth (1,8).

Improved care: Strategies should be implemented to ensure that children who are born HIV free remain non-infected. For HIV-exposed and infected children, the advocacy statement recommended a number of measures for improving their care. Appropriate treatment including co-trimoxazole prophylaxis, nutritional support and the timely introduction of HAART will reverse the high mortality in infected children less than two years of age (4).

To make a diagnosis of HIV infection in children less than 18 months of age remains problematic in Africa, because of the expense and the technological and laboratory challenges associated with virological testing. These constraints should be overcome because tens of thousands of young infected children are dying each year before the

diagnosis of HIV infection is made and before appropriate care is initiated. In this regard, virological testing on dry blood spot samples collected on filter paper for young children from the age of six weeks onwards should be introduced throughout Africa. Initially, testing facilities could be located at regional or academic hospitals but with time be extended to district hospitals to ensure that exposed children have access to these reliable tests.

Treatment of infected infants is particularly challenging as they often have additional medical problems. The state of knowledge of the use of anti-retrovirals in children less than 12 months old is incomplete, dose calculations may require assessments of body surface area, suspensions have to be administered to young children introducing another level of complexity to their management and obtaining blood samples for monitoring may be technically challenging. For these reasons, special attention should be given to ensuring that health institutions in Africa are adequately capacitated to provide infected infants with access to prophylactic measures, clinical and laboratory monitoring, and comprehensive treatment and care.

Adolescent care: In most African countries adolescent medicine is not an established discipline, health facilities are not configured to address the special needs of adolescents and are not youth-friendly, and staff have not been adequately trained to communicate with or manage these individuals. The *status quo* must be changed in order to give all infected adolescents and youth access to comprehensive care (10). Now that perinatally infected children are surviving into adolescence and beyond, the provision of comprehensive care for adolescents and youth is absolutely critical (11).

Antiretroviral therapy: Child health professionals are often questioned about whether there are any benefits in treating HIV-infected children, particularly with antiretroviral therapy. Accumulating evidence from paediatric antiretroviral treatment programmes in rich and poor countries, including Africa consistently show improvements in response to HAART in children of all ages. Benefits have included increased survival, reduced mortality, reduced rates of hospitalisation, improved growth, reduced frequency of opportunistic infections, improved

immunological reconstitution and control of viral replication (11-18). Although triple combination antiretroviral therapy has only been used in children since 1998, in some settings in developed countries more than 90% of perinatally infected children are living to 18 years or older (12,14-16). The quality of life of many infected children has improved dramatically; some have completed their secondary education, entered tertiary educational institutions and/or have started their own families (19). Optimising care for the entire family offers the infected child the best opportunity to develop normally.

UNAIDS recently estimated that at present 660,000 children, mainly in Africa need HAART and that HIV care and HAART for infected children must be scaled up urgently (20). To extend access of antiretroviral therapy to more infected children in Africa will require major human, infrastructure, technical and logistical investments. Many practical challenges must however be overcome before this is achieved, including the transformation of current clinical environment that preferentially prioritises adult patients for antiretroviral therapy, the demands of over-stretched health systems, resource constraints, the death of paediatric technical expertise and trained staff, and limited laboratory capacity to monitor the response to antiretroviral therapy.

In conclusion, Africa needs a focused response to the paediatric HIV epidemic to improve overall child survival in the region. To make this a reality will require high-level political commitment, increased financial investments and a more equitable playing field. ANECCA urges political leaders, public health officials and fellow child care professionals to redouble their efforts to strengthen the response to the paediatric epidemic for the benefit of all children in Africa.

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