Adolescents and HIV in Sub-Saharan Africa: A Timely Issue and Missed Opportunity

Hoosen Coovadia1,2 and Joanne E. Mantell3

1University of KwaZulu-Natal, Durban, and 2Maternal, Adolescent and Child Health Department of Obstetrics and Gynaecology, University of the Witwatersrand, Johannesburg, South Africa; and 3HIV Center for Clinical and Behavioral Studies, New York State Psychiatric Institute and Columbia University, New York

(See the article by Ferrand et al, on pages 844–851.)

The article by Ferrand and colleagues [1] in this issue extends their concerns about adolescents’ access to different levels of health care services (primary health care in this instance) and the frequency, detection, and management of unrecognized and hidden diseases among them [2, 3]. In a previous article [3], they found that undiagnosed, perinatally transmitted human immunodeficiency virus (HIV) infection was the most common cause of hospitalization for acute onset diseases and in-hospital mortality among adolescents in the same city (Harare, Zimbabwe). Although their studies focus on Zimbabwe, the issue of health care for adolescents with HIV infection is generalizable and has resonance in many developing countries [4–6].

The conclusions drawn from the study are in the main valid and justified by the data. Ferrand et al [1] have shown convincingly, in this and other studies, that there is a huge burden of undiagnosed HIV disease among adolescents in urban centers in Zimbabwe. With relatively limited, although increasing, voluntary counseling and testing services in rural Zimbabwe [7], the extent of undiagnosed HIV infection among rural adolescents is unknown. Given the catastrophic economic and political situation and weak health care infrastructure in the country, public health services to detect undiagnosed HIV infection in adolescents may not be feasible. These HIV-infected adolescents have chronic complications of long-standing HIV infection, such as stunting. They are at increased risk for chronic lung and cardiac conditions, which requires further study. For others working in Africa, it is heartening to learn of the high acceptability of HIV testing by the teens and parents or guardians in the study; indeed, only 1% declined diagnostic provider-initiated HIV testing and counseling.

Study findings provide a snapshot of a group of perinatally infected adolescent long-term survivors whose HIV infection was unrecognized during infancy. They became symptomatic in adolescence but have not yet had the benefits of cotrimoxazole prophylaxis and antiretroviral treatment. Ferrand et al [1] suggest that there is a group of perinatally infected infants with slow or delayed progression of HIV disease. Whether these slow progressors represent infants infected during breastfeeding, as noted by Stover and colleagues [8] in 2006, cannot be determined by these data. Using a self-reported measure of orphanhood as a proxy for parental HIV status, we cannot be certain of the maternal HIV status of these adolescents. Ferrand et al [1] acknowledge that self-reports have a limited ability to elicit how participants have been infected with HIV, making their case in part with the low prevalence of Herpes simplex virus–2 among this group of adolescents. The use of a computer-assisted interview rather than a self-administered questionnaire might help to increase the accuracy of self-reports about mode of HIV acquisition. Testing the available mothers of these adolescents to support the history of perinatal transmission would have been particularly helpful. A recent study, however, found that self-reporting of previous tests for undiagnosed HIV infection was reliable, irrespective of the timing of the prior tests [9]. If viral load test results had been available, they might have provided a clue about the recency of HIV infection among this adolescent population. As with studies of adult long-term survivors in resource-limited settings [10], prospective longitudinal follow-up of this cohort of adolescents could contribute to our understanding of disease progression and HIV-related mortality in this group of late-identified, perinatally infected adolescents (even though many will become eligible...
for antiretroviral treatment), while possibly yielding new information about the natural history of HIV infection, including viral, genetic, and immunologic parameters.

There are a number of reasons, many of which are underscored in the studies mentioned above, why the choice of subject by Ferrand et al [1] is important and deserves wider recognition. Foremost is the absence of dedicated facilities and of identifiable health care professionals for adolescents. Often it is unclear whether the care of adolescents should be managed by pediatricians or adult physicians. Pediatricians are often reluctant to transfer their chronic care adolescent patients, with whom a mutually trusting relationship has been built, to physicians with adult practices who may be uncomfortable treating young charges. Specialists trained to treat adolescents are generally unavailable in the nonindustrialized world. Institutional arrangements are often pragmatic rather than based on the real needs of this difficult period in human development. In an academic pediatric unit in KwaZulu-Natal, for instance, the length of children's beds determined that patients >12 years old belonged in the adult wards! The transition from childhood to adolescence is characterized by physiological and sexual changes, identity development, conflicts over autonomy, feelings of invincibility, and heightened risk-taking behaviors. Multidisciplinary teams to manage these problems and social services are often unavailable. It is therefore not surprising that teenagers have difficulties in seeking and receiving appropriate health care.

This is borne out by the current Zimbabwe study, in which many of the adolescents had the clinical hallmarks of longstanding infection but only ~10% had been tested previously for HIV. They faced the additional barriers of being unable to obtain counseling and to initiate HIV testing; also, they may have needed consent from guardians for such tests. Ferrand et al [1] found that, of the 86 HIV-positive adolescent patients attending the 2 acute primary health care clinics, 81% were previously undiagnosed. Most (80%) reported they had been perinatally infected; it is interesting that their results confirm the widely held view that only a minority (~5%) of HIV infections in adolescents occur through nosocomial transmission (unsterile injections or blood transfusions). Tuberculosis, HIV infection, other sexually transmitted diseases, chronic kidney disorders, and substance abuse are examples of silent but serious disorders that can be missed without careful screening of the adolescent population [11–14].

It is a maxim of public health that, whenever possible, health care facility-based studies should be complemented by community and population data; this is especially so when the purpose is to search for undiagnosed diseases. The need for better detection of undisclosed HIV infection among adolescents is challenging. Detection can be enhanced by studies that go beyond health care facilities because of their limitations in access to care, concerns about loss of confidentiality, stigma, and discrimination. The Zimbabwe–United Kingdom group appears to be directing its efforts at 2 levels of health care services (primary health care clinics and hospitals) and could enhance their findings by adding community and school sites. With more than half of all new HIV infections among adolescents and with an unabated perinatal epidemic in the developing world [15, 16], HIV-positive adolescents can be neglected no longer. There is a dearth of data about perinatally infected adolescents in sub-Saharan Africa. The study of adolescents by Ferrand et al [1] highlights the need to develop a national strategy and guidelines for detecting undiagnosed HIV infection among all adults, as recommended by the World Health Organization, especially in countries with generalized hyperendemic outbreaks. Every opportunity, from the home to the referral hospital, from community to workplaces, from nongovernmental organizations to the military, from rich to poor, has to be used to inform at-risk populations and communities about the need for testing for HIV infection and tuberculosis to optimize early identification of disease. Early diagnosis can enhance linkage to earlier monitoring and treatment and, therefore, improved survival and reversal or mitigation of HIV-related complications [17]. The particular vulnerability of adolescents to undiagnosed HIV infection has to be a central part of public health messages that reach family and peer-based networks, because adolescents' intentions to test have been reported to be associated with talking to family members and peers in Zambia [18]. Routine HIV testing of children in infant and childhood immunization clinics can be an effective and acceptable strategy to identify perinatally infected children before they reach adolescence [19]. Increased awareness of this issue among health care providers can be achieved through medical education and training. HIV counseling and testing can be used to promote prevention of primary HIV infection among those who are not infected with HIV. In Zimbabwe, HIV testing appears to be well accepted by the population, and this acceptance should accelerate the progress toward universal testing for adults and adolescents. Mobile testing services in communities may be an effective and acceptable strategy to extend coverage and reach of testing in underserved populations and areas [20, 21].

The data by Ferrand et al [1] argue for the development of innovative, integrated family-centered care services delivered by a multidisciplinary team that provides support for adolescents with HIV infection, whether the adolescent was infected perinatally or by sexual transmission, as well as for parent and guardian caregivers in sub-Saharan Africa. Dedicated programs for adolescents with HIV infection can provide a safety net for the emotional and behavioral challenges they face, including disclosure difficulties, depression, stigma, loss of a biological parent to AIDS, and adherence to treatment and care [22,
23]. Sexual and reproductive health services, including contraceptive and risk-reduction counseling, are essential; so are treatment for sexually transmitted diseases, antiretroviral treatment, and social welfare systems. Concurrently, investment in a population-wide program to detect undiagnosed and unrecognized HIV infection, overcoming barriers to undertaking such an exercise, and country-wide education may get to the roots of one sector of affected persons and also may reduce the number of costly acute care hospital admissions and the social cost to families and communities.

Acknowledgments

Potential conflicts of interest. Both authors: no conflicts.

References