

# Disclosure of Their HIV Status to Infected Children: A Review of the Literature

by María C. Pinzón-Iregui, Consuelo M. Beck-Sagué, and Robert M. Malow

*Robert Stempel College of Public Health and Social Work, Florida International University, Miami, FL, USA*

*Correspondence: Consuelo M. Beck-Sagué, Robert Stempel College of Public Health and Social Work, Florida International University, 11200 SW 8 Street, HLS (AHC II) Room 571, Miami, FL 33199, USA. Telephone (305) 348-4504, Fax 305-348-4901. E-mail <becksague@gmail.com>.*

## Summary

Since the introduction of highly active antiretroviral therapy (ART) in 1996, HIV-infected children often survive beyond adolescence. To assess worldwide trends in disclosure since ART was introduced, we reviewed articles that refer to disclosure of their status to HIV-infected children, and which described patient, health care provider and/or caregiver opinions about disclosure and/or reported the proportion of children who knew their diagnosis. Most studies (17 [55%]) were performed in low- or middle-income (LMI) countries. In the 21 articles that included information on whether the children knew their status, the proportion who knew ranged from 1.2 to 75.0% and was lower in LMI (median = 20.4%) than industrialized countries (43%;  $p = 0.04$ ). LMI country study participants who knew their status tended to have learned it at older ages (median = 9.6 years) than industrialized country participants (median = 8.3 years;  $p = 0.09$ ). The most commonly reported anticipated risks (i.e. emotional trauma to child and child divulging status to others) and benefits (i.e. improved ART adherence) of disclosure did not vary by the country's economic development. Only one article described and evaluated a disclosure process. Despite recommendations, most HIV-infected children worldwide do not know their status. Disclosure strategies addressing caregiver concerns are urgently needed.

**Key word:** HIV disclosure, children, caregivers, low and middle-income countries

## Introduction

In 2009, an estimated 2.5 million children <15 years of age were living with HIV/AIDS, and 370 000 infants were infected annually, 91% of whom lived in sub-Saharan Africa [1]. Although the percentage of HIV-positive pregnant women who received treatment to prevent vertical transmission increased from 33% in 2007 to 45% in 2008, transmission to infants persists worldwide [1, 2]. In 2008, only 38% of children in need of antiretroviral therapy (ART) in low- and middle-income (LMI) countries received it, but this proportion continues to increase [1]. Since the introduction of ART in 1996, the course of pediatric HIV infection has changed dramatically; worldwide, many HIV-infected children, at present, are surviving beyond adolescence [3, 4].

This improved survival has important implications relevant to disclosure of their HIV status to infected children. The experience of disclosure of their diagnosis to children with cancer suggests that informing children about their life-threatening diagnosis may promote psychological adjustment and long-term beneficial effects in the children and their families [5]. In 2004, the International Center for AIDS

Program recommended that school-aged HIV-infected children be informed of their status, and in 2009, the state of New York reaffirmed the American Academy of Pediatrics' 1999 recommendation advising disclosure [6, 7]. However, disclosure of a child's HIV status presents unique challenges. HIV infection is a transmissible highly stigmatized condition about which considerable misinformation persists among children's relatives, teachers and even health care providers [8]. Moreover, because most pediatric HIV infection is due to vertical transmission, disclosure implies revealing parental HIV status and may suggest a stigmatized "risk" behavior in one or both parents [6]. The purpose of this article was to review the world literature on disclosure of HIV status to infected children.

## Methods

We reviewed articles published in the peer-reviewed world literature since the introduction of ART in 1996 that referred to disclosure of their diagnosis to HIV-infected children. We searched the databases MEDLINE and Google Scholar using the key words 'HIV', 'disclosure', 'children', 'adolescent'

and/or 'pediatric'. We included articles published in English, Portuguese and Spanish to identify those describing studies that reported the proportion of HIV-infected children who knew their status, and/or children, provider or caregiver insights on disclosure. The participants in these studies included children infected by all routes of transmission (perinatal, blood products, sexual or unknown routes) and those belonging to multiple countries of origin. Reports describing studies where children's knowledge of their status was an exclusion or inclusion criterion were also reviewed but excluded from the analysis of proportion of children who knew their status.

Data were abstracted, entered and analysed using Epi Info version 3.5.1 for Windows (Centers for Disease Control and Prevention, Atlanta, GA, USA, 2008). Data abstracted included country and level of economic development, year of publication, type of study, number of participants, proportion of participants who knew their HIV diagnosis, reasons offered by caregivers and health care providers for withholding or revealing the diagnosis, outcomes associated with disclosure and preferences reported by caregivers or health care providers as to who should disclose and at what age children should learn their HIV status. Proportions of children who knew their status were compared by participant and country characteristics. Statistical significance was assessed using Fisher's exact two-tailed test for categorical variables and using Kruskal–Wallis test for two groups for continuous variables.

## Results

Thirty-one articles published from January 1996 through September 2011 were identified in the world literature, describing patterns of disclosure of their diagnosis to 2977 children and adolescents with HIV infection [9–39] (Table 1). In five, disclosure was a secondary objective [9–13]; in the other 26 [14–39], it was the main thrust of the study. Seventeen articles (55%) were conducted in LMI countries [12, 14–29], including 11 (35%) in sub-Saharan African countries. Most industrialized country studies (10 of 14 [71%]) were performed in the United States [9–11, 30–36]. Thirty studies were cross-sectional, and one was prospective. The number of participants ranged from 8 to 395 (median = 61). Age at participation ranged from 0 to 24 years. In six articles, disclosure status was an inclusion criterion, so the proportion of children who knew their status was either 100% or 0% [10, 18, 25, 29, 33, 38]. In three, the proportion who knew was not mentioned [13, 17, 21]. The other 22 articles—12 in LMI and 10 in developed countries—described 20 studies where knowledge or naïveté regarding HIV infection status was not an inclusion criterion (Table 2). The mean age for disclosure ranged from 7.0 to 13.7 years, and the percentage of children who knew their status ranged from 1.2

to 75% (median = 29.5%). Proportions of children who knew their status were lower in studies conducted in LMI countries (median = 20.4%) than in industrialized countries (median = 43.1%;  $p = 0.04$ ). LMI country study participants who did know their status reportedly tended to learn it at an older age (median = 9.6 years; range = 8.1–15.0 years) than industrialized country study participants (median = 8.3 years; range = 7.0–11.0 years;  $p = 0.09$ ), although this difference did not achieve statistical significance.

Most studies that focused on disclosure explored both caregivers' and children's points of view (Table 2). Partial disclosure (such as telling HIV–tuberculosis co-infected children only about their tuberculosis) was a commonly used strategy, mentioned in 12 studies. In the 16 studies that explored caregiver preferences of who should disclose, 9 (56%) studies reported that caregivers were the preferred persons to disclose, 5 (31%) suggested caregivers should disclose with health care provider support and 2 (12.5%) suggested that health care providers should disclose. The preferred age for disclosure most commonly offered by caregivers was between 10 and 12 years, followed by 12 and 14 years. The preferred age range for disclosure offered by caregivers in studies conducted in LMI countries tended to be somewhat older. Caregivers expressed a preference for disclosure after 12 years of age in 6 of 9 (67%) LMI country studies, compared with 1 of 4 (25%) studies in developed countries ( $p = 0.23$ , not significant).

In 13 articles, caregivers gave reasons for non-disclosure to infected children (Table 2). The most common reasons for non-disclosure of HIV diagnosis included fear that the child would suffer emotional trauma (11 articles [85%]) as well as divulge the diagnosis to others, with resultant stigma (10 articles [77%]). Concern that the child was too young was mentioned in seven articles (54%), and fear of stigma not explicitly related to child divulging to others was mentioned in five (38%). In 15 articles, including the 13 where caregivers gave reasons for non-disclosure, caregivers also offered reasons why disclosure of their status to HIV-infected children might be desirable (Table 2). Better adherence to ART was the most frequently mentioned, noted in eight studies (53%). The child being "old enough" to know was mentioned in six (40%). Other reasons were that the child would take better care of him/herself (five studies [30%]) and that the child was asking what disease he/she 'had' (five studies [30%]). Less commonly mentioned reasons included that the child has the right to know and that knowing might prevent transmission to others.

Only seven studies specifically referred to how disclosure was experienced by children and their families or caregivers, with six reporting it as a positive event [18, 22, 25, 26, 29, 34]. One article focusing

TABLE 1  
 Disclosure of their condition to children living with HIV: studies published in the peer-reviewed literature from 1996 to 2011

Author	Country/region, year of publication	Number of participants	Age range and/or mean age (years)	% Children who knew diagnosis
Arun <i>et al.</i> [15]	India, 2009	50	Mean: 8.98	14%
Bachanas <i>et al.</i> [9]	USA, 2001	36	6–16 Mean: 9.6	67%
Bhattacharya <i>et al.</i> [23]	India, 2010	145	Mean: 9.1	41.10%
Biadgiling <i>et al.</i> [24]	Ethiopia, 2011	390	1–14 Mean: 8.52	17.40%
Bikaako-Kajura <i>et al.</i> [22]	Uganda, 2006	42	5–17 Mean: 12	29%
Blasini <i>et al.</i> [34]	Puerto Rico, 2004	40	Minimum: 9	20% partial disclosure
Boon-yasidhi <i>et al.</i> [27]	Thailand, 2005	93	5–15 Mean: 8.6	19.80%
Brown <i>et al.</i> [14]	Nigeria, 2011	96	6–14 Mean: 8.8	13.50%
Butler <i>et al.</i> [33]	USA, 2009	395	5–21 Mean: 9.1	100% (inclusion criterion)
Ferris <i>et al.</i> [12]	Romania, 2007	325	5–17	69.20%
Funck-Brentano <i>et al.</i> [37]	France, 1997	35	5–10 Mean: 7.6	17%
Hammami <i>et al.</i> [13]	Belgium, 2004	11	0–18 Mean: 10.75	Not mentioned
Instone [32]	USA, 2000	12	6–12	66.60%
Kallem and Renner [28]	Ghana, 2011	71	8–14 Mean: 10.4	21%
Kouyoumdjian <i>et al.</i> [17]	South Africa, 2005	Not reported	Not reported	Not mentioned
Lester <i>et al.</i> [36]	USA, 2002	51	Not reported	43.10%
Lester <i>et al.</i> [35]	USA, 2002	51	>4	43.10%
Marques <i>et al.</i> [29]	Brazil, 2006	22	10–20	100% (inclusion criterion)
Mellins <i>et al.</i> [31]	USA, 2002	77	3–13 Mean: 8	30%
Menon <i>et al.</i> [16]	Zambia, 2007	127	11–15 Mean: 12.4	37.80%
Moodley <i>et al.</i> [20]	South Africa, 2006	176	0–11 Mean: 3.3	9%
Myer <i>et al.</i> [21]	South Africa, 2006	40 health care providers	Not reported	Not mentioned
Oberdorfer <i>et al.</i> [26]	Thailand, 2006	103	6–16 Mean: 9.5	30.10%
Santamaria <i>et al.</i> [11]	USA, 2011	196	9–16	70%
Thorne <i>et al.</i> [39]	Europe, 2000	140	0–19	18%
Vaz <i>et al.</i> [25]	Congo, 2008	19	11–21 Mean: 16	100% (inclusion criterion)
Vaz <i>et al.</i> [18]	Congo, 2010	8	8–17	100% (inclusion criterion)
Vreeman <i>et al.</i> [19]	Kenya, 2010	123	0–14 Mean: 6.8	3.20%
Waugh [38]	England, 2003	15	5–9 Mean: 7.3	0% (inclusion criterion)
Wiener <i>et al.</i> [30]	USA, 1996	99	5–19 Mean: 10.5	75%
Weiner and Battles [10]	USA, 2006	40	13–24	100% (inclusion criterion)

on children's quality of life, however, did not find a statistically significant difference between pre- and post-disclosure quality of life indicators [33].

The most significant predictors for disclosure were older age (reported by nine studies), initiation of ART and the need for improved adherence to ART. Several studies [16, 31, 33] reported that there was no evidence that knowledge of status had a negative impact on mental health. The only prospective study that evaluated an intervention found that at 6 months post-disclosure, 70% of youth reported normalcy, and only 2.5% (1 of 40) still reported depression and would have preferred not to know; all others reported that they were glad to have found out their status [34].

Five articles discussed disclosure of their status to HIV-infected children as a secondary issue. One compared mental health of HIV-infected children with that of matched uninfected control subjects, and did not report significant differences by knowledge of infection status [9]. Disclosure in one study was

associated with increased adherence to ART [13], and in two studies, earlier timing of disclosure was associated with improved psychological functioning, as well as having disclosed to more people [10, 11]. Ferris *et al.* [12] reported that disclosure was associated with significantly slower disease progression and lower mortality.

### Discussion

Disclosure of their diagnosis to HIV-infected children and adolescents is a vitally important aspect of the care offered to these patients, and may be best implemented considering the developmental stage of the child [6]. Yet, despite recommendations by authorities in the field regarding the desirability of disclosure, most HIV-infected children worldwide are unaware of their status, underscoring the challenges that caregivers and health care providers face in approaching this issue.

In this review, multiple studies suggested that caregivers believed disclosure would have some positive

TABLE 2  
Summary of main findings in studies

Findings	Number of studies
% of children who knew their status <sup>a</sup>	
Overall: 29.5%	22
LMI countries: 20.4%	12 [12, 14–16, 19, 20, 22–24, 26–28]
Developed countries: 43.1%	10 [9, 11, 30–32, 34–37, 39]
Reasons for disclosure	
Better adherence to antiretroviral therapy	8 [10, 18–20, 25, 26, 28, 29]
Child is old enough	6 [10, 25, 27, 29, 32, 38]
Child asked	5 [14, 27, 29, 32, 36]
Better care of him/herself	5 [18, 27, 28, 36, 38]
Child has the right to know	3 [20, 23, 38]
Prevention of transmission	2 [17, 38]
Reasons for non-disclosure	
Fear of emotional consequences on children	11 [10, 14, 18, 19, 23, 26–28, 32, 36, 38]
Fear of children disclosing to others	10 [10, 14, 17, 19, 20, 23, 27, 28, 36, 38]
Child is too young	7 [10, 14, 17, 26–28]
Fear of stigma	5 [17, 19, 26, 32, 36]
Fear of child rejection	2 [14, 38]
Lack of preparation	2 [17, 31]
Preferred ages to disclose offered by caregivers and health care providers	
<10 years	136
10–12	5 [19–21, 31, 38]
12–14	4 [14, 23, 28, 34]
>14	3 [15, 24, 26]
Who should disclose?	
Caregivers	9 [14, 15, 17, 19, 20, 29, 31, 38, 39]
Caregivers and health care providers	5 [21, 23, 26, 28, 34]
Health care providers	2 [18, 24]
Partial disclosure as a common practice	12 [14, 15, 18, 19, 23–26, 28, 29, 32, 37]

<sup>a</sup>Excludes studies where children's knowledge of their condition was an inclusion/exclusion criterion, or where no data are reported as to the proportion of children who knew their status.

effects, with improved ART adherence being the most frequently mentioned. Nevertheless, caregivers expressed reluctance and tried to postpone disclosure as long as possible, foreseeing devastating consequences for their children and families. As a result, disclosure rates were low in most populations, particularly in LMI countries, and secrecy and partial disclosure was a common practice, as noted in a Spanish-language review [40]. However, most reports that assessed the aftermath of disclosure suggest that it did not have the feared consequences in children and was instead linked with increased adherence and improved clinical status and response to medications in some.

The present review encompasses 15 years of published literature. The most prominent finding is the dearth of information about the true barriers to, and benefits of, disclosure, children's and adolescents' desires, caregivers' and health care providers' opinions and particularly the lack of strategies to support the disclosure processes. Only 1 of the 31 articles reviewed described the evaluation of a disclosure protocol. Reasons given by caregivers as barriers

and benefits remained remarkably similar in studies published through the 15 years reviewed, as well as in diverse regions in the world.

Most studies identified an unmet need for comprehensive evidence-based guidelines directed to health care providers to assist caregivers in the process of disclosure [9, 14, 15, 18, 20–24, 26, 27, 29, 30, 35, 38, 39]. Health care providers' recommended role has been generally seen as supportive to guide caregivers throughout the process. Guidelines based on cultural factors, national realities and individual family circumstances, such as its communication style, have been advocated, but do not exist yet. These structural factors and family circumstances will influence the timing and methods used to initiate and support this process. Important considerations are the need for long-term evaluation of mental health, social adjustment, stigma and isolation post-disclosure, counseling, peer support and the need to anticipate community response [34, 36].

Reducing mother-to-child transmission of HIV (currently the most common route of HIV transmission to children, accounting for >95% of cases) is

believed to be achievable in the future, with increased access to ART and the various other components critical to prevention [41, 42]. Nevertheless, for the foreseeable future, pediatric HIV infection will still affect thousands of children worldwide, most of them in LMI countries. The increased access to ART for children living with HIV ensures that many in this population will grow to adolescence and adulthood and may initiate sexual activity and childbearing. It is essential to address the unmet need for effective culturally sensitive disclosure strategies. Currently, the failure to recognize that knowledge of their status is a human right denies perinatally HIV-infected adolescents of the autonomy to which they are clearly entitled, and endangers their health and that of their sexual partners [43]. Evidence-based disclosure strategies that balance caregivers' and health care providers' concerns with children's rights to know their status are urgently needed.

### References

- UNAIDS. [http://www.unaids.org/globalreport/AID\\_Sinfo.htm](http://www.unaids.org/globalreport/AID_Sinfo.htm) (29 February 2012, date last accessed).
- Meyers T, Moultrie H, Naidoo K, *et al.* Challenges to pediatric HIV care and treatment in South Africa. *J Infect Dis* 2007;196:S474–81.
- Gortmaker SL, Hughes M, Cervia J, *et al.* Effect of combination therapy including protease inhibitors on mortality among children and adolescents infected with HIV-1. *N Engl J Med* 2001;345:1522–8.
- Sutcliffe CG, van Dijk JH, Bolton C, *et al.* Effectiveness of antiretroviral therapy among HIV-infected children in Sub-Saharan Africa. *Lancet Infect Dis* 2008;8:477–89.
- Slavin LA, O'Malley JE, Koocher GP, *et al.* Communication of the cancer diagnosis to pediatric patients: impact on long-term adjustment. *Am J Psychiatry* 1982;139:179–83.
- American Academy of Pediatrics Committee on Pediatric AIDS. Disclosure of illness status to children and adolescents with HIV infection. *Pediatrics* 1999;103:164–6.
- Abrams E, El-Sadr W, Rabkin M. The Pediatric Clinical Manual. International Center for AIDS Programs. [http://www.plateforme\\_elsa.org/docs/Documents/Pediatric\\_Clinical\\_Manual.Pdf](http://www.plateforme_elsa.org/docs/Documents/Pediatric_Clinical_Manual.Pdf) (17 October 2011, date last accessed).
- Wiener L, Mellins CA, Marhefka S, *et al.* Disclosure of an HIV diagnosis to children: history, current research, and future directions. *J Dev Behav Pediatr* 2007;28:155–66.
- Bachanas P, Kullgren K, Suzman Schwartz K, *et al.* Predictors of psychological adjustment in school age children infected with HIV. *J Pediatr Psychol* 2001;26:343–52.
- Weiner L, Battles HB. Untangling the web: a close look at diagnosis disclosure among HIV infected adolescents. *J Adolesc Health* 2006;38:307–09.
- Santamaria E, Dolezal C, Marhefka S, *et al.* Psychosocial implications of HIV serostatus disclosure to youth and perinatally acquired HIV. *AIDS Patient Care STDS* 2011;25:257–64.
- Ferris M, Bura K, Schweitzer AM, *et al.* The influence of disclosure of HIV diagnosis on time to disease progression in a cohort of Romanian children and teens. *AIDS Care* 2007;19:1088–94.
- Hammami N, Nostlinger C, Hoeree T, *et al.* Integrating adherence to HAART into children's daily lives: a qualitative study. *Pediatrics* 2004;114:e591–7.
- Brown B, Oladokun R, Osinusi S. Disclosure of HIV status to infected children in a Nigerian HIV care programme. *AIDS Care* 2011;23:1053–8.
- Arun S, Singh AK, Lodha R, *et al.* Disclosure of the HIV Infection status in children. *Indian J Pediatr* 2009;76:805–13.
- Menon A, Glazebrook C, Campain N, *et al.* Mental Health and disclosure of HIV status in Zambian adolescents with HIV infection: implications for peer-support programs. *J Acquir Immune Defic Syndr* 2007;46:349–54.
- Kouyoumdjian F, Meyers T, Mtshizana S. Barriers to disclosure to children with HIV. *J Trop Pediatr* 2005;51:285–7.
- Vaz L, Eng E, Maman S, *et al.* Telling children they have HIV: lessons learned from findings of a qualitative study in Sub-Saharan Africa. *AIDS Patient Care STDS* 2010;24:247–56.
- Vreeman R, Nyandiko W, Ayaya S, *et al.* The perceived impact of disclosure of pediatric HIV status on pediatric antiretroviral therapy adherence, child well-being and social relationships in a resource limited setting. *AIDS Patient Care STDS* 2010;24:639–49.
- Moodley K, Myer L, Michaels D, *et al.* Pediatric HIV disclosure in South Africa: caregiver's perspectives on discussing HIV with infected children. *S Afr Med J* 2006;96:201–3.
- Myer L, Moodley K, Hendricks F, *et al.* Health care providers' perspectives on discussing HIV status with infected children. *J Trop Pediatr* 2006;52:293–5.
- Bikaako-Kajura W, Luyirika E, Purcell D, *et al.* Disclosure of HIV status and adherence to daily drug regimens among HIV infected children in Uganda. *AIDS Behav* 2006;10:S85–93.
- Bhattacharya M, Prakash A, Sharma M. Patterns of diagnosis disclosure and its correlates in HIV infected North Indian children. *J Trop Pediatr* 2010;57:405–11.
- Biadgiling S, Deribew A, Amberbir A, *et al.* Factors associated with HIV/AIDS diagnostic disclosure to HIV infected children receiving HAART: a multi-center study in Addis Ababa, Ethiopia. *PLoS One* 2011;6:1–6.
- Vaz L, Corneli A, Dulyx J, *et al.* The process of HIV status disclosure to HIV positive youth in Kinshasa, DRC. *AIDS Care* 2008;20:842–52.
- Oberdorfer P, Puthanakit T, Louthrenoo O. Disclosure of HIV/AIDS diagnosis in HIV-infected children in Thailand. *J Pediatr Child Health* 2006;42:283–8.
- Boon-yasidhi V, Kottapat U, Durier Y, *et al.* Diagnosis disclosure in HIV infected Thai children. *J Med Assoc Thai* 2005;88:100–6.
- Kallem S, Renner L, Ghebremichael M, *et al.* Prevalence and Pattern of disclosure of HIV status in infected children in Ghana. *AIDS Behav* 2011;15:1121–7.
- Marques H, Gravato N, Lecussan P, *et al.* Disclosure of HIV infection from the perspective of adolescents living with HIV/AIDS and their parents and caregivers. *Cad Saude Publica* 2006;22:619–29.

30. Wiener LS, Battles HB, Heilman N, *et al.* Factors associated with disclosure of diagnosis to children with HIV/AIDS. *Pediatr AIDS HIV Infect* 1996;7: 310–324.
31. Mellins CA, Brackis-Cott E, Dolezal C, *et al.* Patterns of HIV status disclosure to perinatally HIV-infected children and subsequent mental health outcomes. *Clin Child Psychol Psychiatry* 2002;7:101–114.
32. Instone S. Perceptions of children with HIV infection when not told for so long: implications for diagnostic disclosure. *J Pediatr Health Care* 2000;14:235–43.
33. Butler A, Williams P, Howland L, *et al.* Impact of disclosure of HIV infection on health related quality of life among children and adolescents with HIV infection. *Pediatrics* 2009;123:935–943.
34. Blasini I, Chantry C, Cruz C, *et al.* Disclosure model for pediatric patients living with HIV in Puerto Rico: design, implementation and evaluation. *J Dev Behav Pediatr* 2004;25:181–9.
35. Lester P, Chesney M, Cooke M, *et al.* When the time comes to talk about HIV: factors associated with diagnostic disclosure and emotional distress in HIV infected children. *J Acquir Immune Defic Syndr* 2002;31: 309–17.
36. Lester P, Chesney M, Cooke M, *et al.* Diagnostic disclosure to HIV infected children: how parents decide when and what to tell. *Clin Child Psychol Psychiatry* 2002;7:85–99.
37. Funck-Brentano I, Costagliola D, Seibel N, *et al.* Patterns of disclosure and perceptions of the HIV in infected elementary school-age children. *Arch Pediatr Adolesc Med* 1997;151:978–85.
38. Waugh S. Parental views on disclosure of diagnosis to their HIV-positive children. *AIDS Care* 2003;15: 169–76.
39. Thorne C, Newell ML, Peckham CS. Disclosure of diagnosis and planning for the future in HIV affected children. *Child Care Health Dev* 2006;26:29–40.
40. Trejo AM, Palacio JE, Mosquera M, *et al.* Revelación del estado serológico para VIH/SIDA en niños, niñas y adolescentes: una revisión teórica (Disclosure of serologic HIV/AIDS status children and adolescents: a theoretical review. *Rev Chil Salud Pública* 2009;13: 143–54.
41. Mahy M, Stover J, Kiragu K, *et al.* What will it take to achieve virtual elimination of mother-to-child transmission of HIV? An assessment of current progress and future needs. *Sex Transm Infect* 2010;86(Suppl 2):ii48–55.
42. Moszynski P. Global elimination of mother to child HIV transmission is now achievable, say agencies. *BMJ* 2010;341:c5152.
43. Human Rights Watch News. Why governments should promote supportive disclosure, 1 December 2010. <http://www.hrw.org/node/94635>To (28 March 2012, date last accessed).