

# Knowledge, attitudes, and practices on antiretroviral management, reproductive health, and sexual risk behavior among perinatally HIV-infected youth in Thailand

Rangsim Lolekha<sup>1</sup>, Vitharon Boon-yasidhi<sup>1</sup>, Pimsiri Leowrisook<sup>1</sup>, Wipada Nuchanard<sup>1</sup>, Yuitiang Durier<sup>1</sup>, Supichaya Netsawang<sup>1</sup>, Thananda Nalwatanakul<sup>1</sup>, Boonying Manaboriboon<sup>1</sup>, Sujinda Yadech<sup>1</sup>, Kanyarat Klumthanom<sup>1</sup>, Jariya Taruga<sup>1</sup>, Nisachol Ounjit<sup>1</sup>, Chanidapa Yuvaseevee<sup>1</sup>, Sirijit Kanakool<sup>1</sup>, Waranee Punpanich Vandopit<sup>1</sup>, Sarika Pattanasri<sup>1</sup>, Kenneth A. Katz<sup>2</sup>, Michelle S. McConnell<sup>2</sup>, Kulkanya Chokephaibulkit<sup>1</sup>

<sup>1</sup>Thailand MOPH – U.S. CDC Collaboration (TUC), Global AIDS Program (GAP), Department of Pediatrics, Faculty of Medicine Siriraj Hospital, Mahidol University, Queen Sirikit National Institute for Child Health (QSNICH), Ministry of Public Health



## Background

- As of September 2009, the number of HIV-infected children aged <15 years registered in the treatment system was 8,078. More than 30% of perinatally HIV-infected children in Thailand are now >12 years old.
  - Perinatally HIV-infected youth are a risk group for mental health and behavioral difficulties. Most of them have been taking ARV medications for most of their lives. As these youth become sexually active, transmission of ARV resistant strains is also a risk.
  - Data on knowledge, attitudes, and practices (KAP) on ARV management, reproductive health, sexually transmitted infections (STIs), and risk behavior among HIV-infected youth in Thailand are limited.
- We studied KAP among perinatally HIV-infected youth in Thailand to determine risk behaviors, in order to guide program planning and design appropriate interventions.

## Methods

HIV-infected youth aged >12 years receiving care at 2 tertiary care hospitals in Bangkok and an orphanage in Lopburi were invited to participate in an audio computer-assisted self-interview to assess KAP on ARV management, reproductive health, STIs, and risk behavior.



- Youth were instructed how to use audio computer-assisted self-interview by project staff, including emphasis on giving an answer honestly.
- If youth did not understand a question, they could ask project staff for clarification. However, project staff did not provide answers to the questions.
- Characteristics of perinatally HIV-infected youth participating in this survey were described as proportions (percentages).
- Median percentages of knowledge and attitude scores toward desirable behaviors were calculated.
- Factors associated with low knowledge and attitude scores were analyzed using logistic regression.

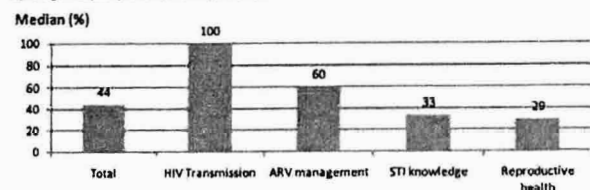
## Results

- During October 2010–July 2011, 197/220 (90%) eligible youth completed the self-interview.
- Characteristics of perinatally HIV-infected youth attending two tertiary care centers are shown in Table 1.
- Median age was 14 years (range 12–18 years) and 56% were female.
- All youth received antiretroviral treatment (ART) and 142 (72%) had HIV RNA <50 copies/ml.

Table 1. Characteristics of perinatally HIV-infected youth attending two tertiary care centers in Bangkok and an orphanage in Lopburi province, Thailand, 2010–2011

Characteristics	Total (N = 197)	
	14.6 (11–18)	
Age, years (range)	n	%
Health settings		
- Siriraj Hospital	81	41%
- Queen Sirikit National Institute of Child Health	83	42%
- Dharmaraksa orphanage	33	17%
Education		
- Grade 1–6 (primary school)	51	26%
- Grade 7–12 (high school)	118	59%
- Above grade 12	19	10%
- Not in school	9	5%
Primary caretaker		
- Parents	88	54%
- Relatives	66	41%
- Self care	2	1%
- Others	6	4%
Time since aware of HIV status		
- <1 year	23	12%
- 1–3 years	74	38%
- >3 years	79	40%
Tanner stage		
- I	13	7%
- II	41	22%
- III–V	130	71%
Recent CD4 count: median (range), cells/mm <sup>3</sup>	690 (35–2,243)	
Recent viral load: median (range), copies/ml	<40 (40–487,831)	

Figure 1. Knowledge scores of perinatally HIV-infected youth attending two tertiary care centers in Bangkok and an orphanage in Lopburi province, Thailand, 2010–2011



- Overall median knowledge score was 44% (IOR: 28–58%).
- Total knowledge scores <50% were associated with
  - being at the orphanage (AOR: 6.5; 95% CI: 2.2–18.6) and
  - age <15 years (AOR: 2.4; 95% CI: 1.2–4.8)

Table 2. Attitudes in self care, ARV management and risk behaviors of 197 perinatally HIV-infected youth attending two tertiary care centers in Bangkok and an orphanage in Lopburi province, Thailand, 2010–2011

Attitudes	Agree (%)		Disagree (%)	
	Total	Total	Total	Total
Staying out all night without permission is wrong	141	72%	47	24%
Frequently watching porn clips, VCDs, films, or websites is OK for teens to do	46	23%	132	67%
Hugging or kissing a girlfriend/boyfriend without having sex is not wrong	79	40%	96	49%
It is normal that teens have sex with their boyfriend or girlfriend	55	28%	123	63%
When a teen's boyfriend/girlfriend wants to have sex, teens should do it to please them (even if teens don't want to)	71	36%	157	80%
It is not necessary to always use a condom with a boy/girlfriend	20	10%	161	82%
It is easy for you to get birth control pills if you need them	73	37%	94	48%
It is easy for you to get condoms if you need them	119	61%	52	27%
Teens should not have sex	130	66%	53	27%
HIV infected people can be married to an HIV negative person	116	59%	50	25%
People who have HIV should not have sex	82	42%	86	44%
It is not necessary to tell sex partners that you have HIV	73	37%	101	51%
Having sex without using a condom is risky	144	74%	38	19%
Teens should not play games (computer, internet) more than 2 hours/day	130	66%	55	28%
Go out with someone you meet from chatting on the Internet is risky	140	71%	48	24%

- Median attitude score toward desirable behaviors was 58% (IOR: 60–77%).
- Low attitude scores were associated with
  - being male (AOR: 2.4; 95% CI: 1.3–4.4) and
  - HIV knowledge score <50% (AOR: 2.8; 95% CI: 1.4–4.8)

Table 3. Personal practices in self care, ARV management and risk behaviors of perinatally HIV-infected youth attending two tertiary care centers in Bangkok and an orphanage in Lopburi province, Thailand, 2010–2011 (N = 197)

Characteristics	Total No. (%)	
	n	%
Self care and ARV management		
Know your last CD4 test result		
- Yes, remember no. of CD4	12	6%
- Yes, but can't remember number	119	61%
- No	60	31%
Know your latest viral load test result		
- Yes, remember no. of VL	11	6%
- Yes, but can't remember number	108	55%
- No	71	36%
Ever missed taking your ARVs during the past week	32	16%
Substance use		
Ever had an alcoholic beverage	58	30%
Ever smoked cigarettes	36	18%
Ever used any of addictive substances; marijuana, metamphetamines, glue sniffing, solvent sniffing	3	1%
Sex behaviors		
Currently have a boyfriend/girlfriend	58	30%
Of 58 having a boyfriend/girlfriend		
- Ever hugged or kissed your boyfriend/girlfriend	23	40%
- Ever touched, kissed or tried to have sex with you against your will	23	36%
- Ever had sexual intercourse	10	17%
HIV disclosure to others (can choose more than one)		
- No/No answer	140	71%
- Relatives	41	21%
- Friends	17	9%
- Boyfriend/girlfriend	6	3%

Numbers may vary due to missing data.

- Substances were used by 2%.
- Among the 58 (29%) who had boyfriend/girlfriends,
  - 6 (10%) disclosed HIV status to their boyfriend/girlfriends
  - 10 (17%) had had sexual intercourse
- Of 10 youth who had sexual intercourse,
  - 6 (60%) ever used condoms
  - 2 (20%) disclosed HIV status to their boyfriend/girlfriends
  - 2 (20%) had been pregnant or gotten someone pregnant
  - 3 (30%) ever had STI symptoms

## Limitations

- The data limited to only perinatally HIV-infected youth seen at two tertiary care hospitals in Bangkok and the orphanage in Lopburi, and may not be generalizable to behaviorally HIV-infected youth and other health care settings in Thailand.

Missing data could result in incorrect ascertainment of risk behaviors.

## Conclusion

- HIV-infected youth had low knowledge of reproductive health and STI.
- Low knowledge scores were associated with being at the orphanage and age <15 years.
- Almost 70% of youth had attitudes toward desirable behaviors.
- Low attitude scores were associated with being male and HIV knowledge score <50%.
- Some youth were sexually active and had sexual risk behavior.
- HIV status disclosure to partners and condom use should be assessed during clinic visit and should be promoted as strategies to reduce risk of HIV transmission to partners.
- Interventions to improve reproductive health and STI knowledge of perinatally HIV-infected youth should be identified.

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