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Awareness About Antiretroviral Treatment, Intentions to Use Condoms, and Decisions to Have an HIV Test Among Rural Northern Lowland Thai and Ethnic Minority Young Adults

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Abstract

Young adults aged 18 to 32 years were randomly selected from a household probability sample participating in Project Accept in the remote areas of Chiang Mai province in northern Thailand in 2005. Among 2989 respondents, 44.4% had never heard of antiretroviral treatment (ART). Lack of awareness of ART was independently associated with having had no formal education compared with some formal education and being an ethnic minority compared with being Thai. In all, 57% of the respondents who had ever heard of ART stated that if ART were easily available in their communities it would affect their intentions to be tested for HIV, whereas only 36% stated that this would affect their intentions to use condoms. Younger participants were less likely to intend to get an HIV test as compared with older individuals, and ethnic minorities were less likely to report that they would get an HIV test compared with Thai lowlanders. Single individuals and people who lived separately from their spouses were more likely to have the intention to use condoms if ART were available.

Keywords

AIDS, counseling, anti-HIV testing, antiretroviral treatment, condom use, HIV

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Introduction

The introduction of highly active antiretroviral treatment (HAART) in 1996 changed the nature of HIV infection from an untreatable disease to a chronic, manageable health problem.^{1,2} It was seen not only as an effective means for caring for people who were infected with HIV but also as a possible HIV prevention strategy. People who are on HAART treatment have lower HIV viral loads and are less likely to transmit the virus to their partners.³ The availability of HAART has increased throughout the developing world, and it has become more accessible because of reduced medication costs and financial support from governments and nongovernmental bodies around the world.⁴

Thailand is considered to be in the forefront of low- and middle-income countries in terms of its national ART program initiative and implementation. With AIDS being the leading cause of deaths among Thai people during the 1990s,⁵ the Thai government piloted the HAART program in 2001 and started providing large-scale service throughout the country in 2002.⁶ Recently, HAART has been incorporated into the national health insurance personal benefit package, which provides medications and related services free of charge for Thai citizens.⁷ At least 100 000 patients were under treatment through this program at the end of 2006 throughout the kingdom. One fifth of the program's enrollees reside in the northern part of the country, which was the area of the country that was the hardest hit by the HIV epidemic during the 1990s.⁸

There is some evidence to show that perceptions and attitudes toward ART shape people's attitudes about HIV and influence their risk behaviors. Among men who have sex with men (MSM), those who perceived less need for safe sex because of the availability of HAART were significantly more likely to report increased unprotected receptive anal intercourse,⁹ which resulted in increasing the likelihood of HIV seroconversion.¹⁰ A meta-analytic review, not limited only to MSM populations, showed that the likelihood of unprotected sexual behavior was significantly higher in people who believed that HAART reduced HIV transmission.¹¹ These findings support the hypothesis of a relationship between a sense of decreased threat of HIV/AIDS since HAART has become accessible and increased HIV risk behaviors. However, most research related to this issue has been conducted with predominantly MSM populations, primarily in urban areas of developed countries. There is very little information to date regarding perceptions regarding HAART availability and HIV risk behaviors among the general population who live in rural areas of developing countries.

There is also limited understanding of how the availability of ART will affect future HIV-test-seeking behaviors. HIV voluntary counseling and testing (HIV VCT) is a key health service that bridges HIV prevention and care activities. HIV risk reduction counseling techniques are widely used during pretest and posttest counseling to lower HIV risk behaviors of clients after counseling. VCT is also an entry point to comprehensive care services for people who are found to be infected with HIV.¹²

We examined awareness of ART and how it affected intended condom use behaviors and intentions to have an HIV test among rural northern lowland Thais as well as ethnic minority young adults living in rural regions of northern Thailand. Youth are known to be at risk of HIV infection, whereas people who reside in rural areas, as well as ethnic minorities, are known to have less access to health information and health care services. Data used in this article were derived from the baseline survey of Project Accept, a community cluster randomized controlled trial to determine the efficacy of an HIV/AIDS intervention in multinational communities (4 sites in Sub-Saharan Africa and 1 site in northern Thailand). The primary objective of the study is to decrease HIV incidence through community-level change.¹³ Briefly, we hypothesize that community-level changes effected by 3 years of community mobilization, community-based mobile VCT services, posttest support services, and standard clinic-based services providing VCT will result in significantly lower HIV incidence compared with communities receiving standard clinic-based VCT alone.

Methods

Details of the Project Accept baseline survey methods, data management, and basic findings have been described in Genberg et al.¹⁴ At the Thai site, the baseline survey of Project Accept was conducted during January and June 2005 in 14 communities in remote areas of Chiang Mai province, northern Thailand. The sample population was 2997 young adults aged 18 to 32 years old who were randomly selected from a household probability sample of households in the study communities. The respondents were interviewed by a trained interviewer at their residence using standardized structured questionnaires. Of the 2997 participants, 2989 had completed the ART questions, and their data were used for this study. Descriptive statistics and odds ratios (ORs) were used for data analysis.

Results

Of 2989 participants aged 18 to 32 who completed the ART questions, 47.5% (1420) were men and 52.5% (1569) were women. The median age of the interviewees was 26 years, of whom 57% (1692) were married and lived with their spouses at the time of interviews, whereas the rest were either single or lived separately. In terms of ethnicity, 54.5% (1628) were lowland Thais and 45.5% (1368) were ethnic minorities. In all, 22% (653) of the respondents stated that they had no formal education, primarily among ethnic minorities (Table 1).

We found that 44% (1327) of the participants had never heard of ART. In univariate analysis, being unaware of ART was significantly associated with having had no formal education compared with any formal education (OR = 16.9; 95% confidence interval [CI] = 12.96-22.08), being an ethnic minority compared with being a Thai lowlander (OR = 8.52; 95% CI = 7.20-10.09), and living with a spouse compared with being single (OR = 1.77; 95% CI = 1.52-2.05). Education and ethnicity were independently associated with being unaware of ART in multivariate analysis. Gender and age were not associated with awareness of ART (Table 1).

Of the 1662 respondents who had ever heard of ART, 605 (36.4%) and 950 (57.2%) stated that if ART were more easily available in their community, it would affect their decisions regarding condom use and their decisions to get an HIV test, respectively. The proportions of positive responses to the questions above were distributed similarly among categories of genders, age groups, marital status, ethnicities, and education (Table 2).

Among 605 people who responded that their decisions regarding condom use would be affected if ART was easily available in their community, 330 (54.5%) reported that they would be less likely to use condoms. Respondents who lived with their spouses were less likely to intend to use condoms when compared with single individuals or people who lived away from their partners (OR = 1.47; 95% CI = 1.05-2.06; Table 2).

Among 950 people who stated that if ART was easily available in their communities it would affect their decision to be tested for HIV, 786 (82.7%) would be more likely to get an HIV test. In univariate analysis, adolescents (aged 18-25 years old) were less likely to intend to seek an HIV test as compared with young adults (age 25-32 years old) (OR = 0.50; 95%CI = 0.35-0.71). Ethnic minorities were less likely to report that they would get an HIV test compared with Thai lowlanders (OR = 0.47; 95%CI = 0.32-0.70). Both variables were independently associated with the decision in multivariate analysis (Table 3).

Discussion

Despite the mature HIV epidemic in northern Thailand and the growing availability of ART in all government hospitals since 2002, only 56% of young adults living in rural areas of northern Thailand had ever heard about ART. There was a large disparity in ART awareness between people

Table 1. Demographic Characteristics and Lack of Awareness of ART Among a Random Sample of 2989 Young Adults Aged 18 to 32, Chiang Mai Province, Northern Thailand

Characteristics	n (%)	Never Heard of ART		
		n (%)	Crude OR (95% CIs)	Adjusted OR (95% CIs)
Gender				
Male	1420 (47.5)	634 (44.6)	1	— ^a
Female	1569 (52.5)	693 (44.2)	0.98 (0.85-1.14)	
Age (years)				
25-32	1732 (57.9)	757 (45.3)	1	— ^a
18-24	1257 (42.1)	570 (45.7)	1.07 (0.92-1.24)	
Marital status				
Single or separated	1297 (43.4)	474 (36.5)	1	1
Living with spouse	1692 (56.6)	853 (50.4)	1.77 (1.52-2.05)	1.04 (0.88-1.25)
Ethnicity				
Thai lowland	1628 (54.5)	362 (22.2)	1	1
Minorities	1361 (45.5)	965 (70.9)	8.52 (7.22-10.05)	4.30 (3.57-5.18)
Education				
Some years of education	2336 (78.2)	747 (32.0)	1	1
No formal education	653 (21.8)	580 (88.8)	16.9 (12.96-22.08)	6.90 (5.20-9.17)

Abbreviations: ART, antiretroviral treatment; OR, odds ratio; CI, confidence interval.

^aNot included in multivariate analysis.

Table 2. Analysis of Characteristics and Opinions of 605 Respondents Who Stated That if ART Were Easily Available in Their Community, It Would Affect Their Decisions Regarding Condom Use

Characteristics	Easily Available ART Would Affect Decisions Regarding Condom Use (n = 605)		Less Likely to Use Condom (n = 330)	
	n (%)	Crude OR (95% CIs)	n (%)	Crude OR (95% CIs)
Gender				
Male	300 (38.2)	1	155 (51.7)	1
Female	305 (34.8)	0.87 (0.70-1.06)	175 (57.4)	1.26 (0.90-1.76)
Age (years)				
25-32	350 (35.9)	1	188 (53.7)	1
18-24	255 (37.1)	1.05 (0.86-1.30)	142 (55.7)	1.08 (0.77-1.52)
Marital status				
Single or separated	318 (38.6)	1	159 (50.0)	1
Living with spouse	287 (34.2)	0.63 (0.67-1.01)	171 (59.6)	1.47 (1.05-2.06)
Ethnicity				
Thai lowland	461 (36.4)	1	257 (71.2)	1
Minorities	144 (36.4)	1.00 (0.78-1.27)	73 (50.7)	1.00 (0.78-1.27)
Education				
Some year of education	576 (39.7)	1	315 (54.7)	1
No formal education	29 (36.2)	1.16 (0.70-1.92)	15 (51.7)	0.89 (0.40-1.99)

Abbreviations: ART, antiretroviral treatment; OR, odds ratio; CI, confidence interval.

who had some formal education and people who had not, and between ethnic minorities and Thai lowlanders. We also found that people who were living with spouses, compared with being single or living separately, were more likely to be unaware of ART. These disparities highlight the need for expanding HIV education as well as targeting ART education campaigns.

Table 3. Characteristics and Opinions of 950 Respondents Who Stated That if ART Were Easily Available in Their Community, It Would Affect Their Decisions to Get an HIV Test

Characteristics	Easily Available ART Would Affect Decisions to get HIV Test (n = 950)		More Likely to Get an HIV Test (n = 786)		
	n (%)	Crude OR (95% CIs)	n (%)	Crude OR (95% CIs)	Adjusted OR (95% CIs)
Gender					— ^a
Male	447 (56.9)	1	368 (82.3)	1	
Female	503 (57.4)	1.02 (0.84-1.25)	418 (83.1)	1.06 (0.74-1.50)	
Age (years)					
25-32	551 (56.5)	1	479 (86.9)	1	1
18-24	399 (58.1)	1.07 (0.87-1.31)	307 (76.9)	0.50 (0.35-0.71)	0.51 (0.36-0.72)
Marital status					— ^a
Single or separated	475 (56.6)	1	384 (80.8)	1	
Living with spouse	475 (57.7)	0.96 (0.78-1.17)	402 (84.6)	1.31 (0.92-1.86)	
Ethnicity					
Thai lowland	739 (53.3)	1	631 (85.4)	1	1
Minorities	211 (58.4)	0.81 (0.64-1.03)	155 (73.5)	0.47 (0.32-0.70)	0.48 (0.33-0.70)
Education					— ^a
Some years of education	909 (57.2)	1	752 (82.7)	1	
No formal education	41 (56.2)	1.04 (0.63-1.72)	34 (82.9)	0.99 (0.36-2.31)	

Abbreviations: ART, antiretroviral treatment; OR, odds ratio; CI, confidence interval.

^aNot included in the multivariate model.

Among interviewees who were aware of ART, easy availability of the treatment affected the condom use intentions of only a small proportion of people. In addition, the proportions of respondents who stated that they were more likely or less likely to use condoms given easy ART availability were similar. The hypothesis that people would intend to use condoms less if ART is available may not be true. However, our data were not gathered only from people who were current condom users at the time of interview but from the general population. In our sample, single individuals and people who lived separately from their spouses were more likely to intend to use condoms compared with people who lived with their spouses. This finding was encouraging because people who were currently unmarried but had a partner and noncohabiting partners may be more likely to engage in HIV sexual risk behaviors.^{15,16}

A larger proportion of respondents who were aware of ART stated that if ART was more easily available in their community, it would affect their decision to get an HIV test compared with condom use. This finding showed that awareness of ART may ease the fears of testing for HIV and obtaining test results among young adults. More HIV tests result in more individuals who know their anti-HIV status early. This would also benefit ART program outcome because a cohort study from Thailand found that people who were on ART and had a CD4 cell count higher than 200/mm³ had lower mortality compared with people who had a CD4+ cell count less than 200/mm³.¹⁷ The government as well as other agencies who work on HIV issues should use this opportunity to inform people about the ART program as part of the national strategy to increase HIV VCT uptake. This finding should be interpreted with caution as it may vary by geographic location. For the current northern Thai context, providing information about ART as an HIV

prevention strategy to increase VCT uptake should work better among Thai lowlanders compared with ethnic minorities, and in older adults (age 25-32) compared with younger ones (age 18-24) because they were more likely to report that they would seek an HIV test if ART were easily available.

The major strength of our study is that the study participants were randomly selected from the study population and are representative of young adults who resided in rural areas of northern Thailand in 2005. The main limitation of our study is that we were unable to verify the respondent's knowledge about ART among those participants who stated that they had heard about ART. The validity of our findings would be jeopardized if a substantial proportion of the respondents did not exactly know what ART was and how it could affect the course of HIV disease progression.

Conclusion and Recommendations

In conclusion, only about half of the young adults who resided in rural areas of northern Thailand had heard of ART in 2005. Awareness of ART was lower among ethnic minorities and respondents with no formal education. Awareness of accessibility of ART in the community had a greater influence on HIV test seeking intentions than condom use intentions. Among people who stated that their behavior would be influenced by easy availability of ART, ethnic minorities and the younger age group expressed reduced intention to seek HIV testing, whereas people who lived with their spouse were less likely to intend to use condoms. These findings showed that we need greater efforts to mobilize and educate communities about ART among underserved people to increase the use of HIV VCT services.

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Declaration of Conflicting Interests

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