Influencing factors for seeking HIV voluntary counseling and testing among tuberculosis patients in Cambodia

Krishna Poudel

AIDS Care

Influencing factors for seeking HIV voluntary counseling and testing among tuberculosis patients in Cambodia

Article *in* AIDS Care · May 2009

DOI: 10.1080/09540120802270268 · Source: PubMed

6 authors, including:

Siyan Yi
KHANA
53 PUBLICATIONS **270** CITATIONS
SEE PROFILE

Krishna C. Poudel
University of Massachusetts Amherst
127 PUBLICATIONS **901** CITATIONS
SEE PROFILE

Masao Ichikawa
University of Tsukuba
70 PUBLICATIONS **706** CITATIONS
SEE PROFILE

Masamine Jimba
The University of Tokyo
248 PUBLICATIONS **1,627** CITATIONS
SEE PROFILE

AIDS Care: Psychological and Socio-medical Aspects of AIDS/HIV

Publication details, including instructions for authors and subscription information:
http://www.tandfonline.com/loi/caic20

Influencing factors for seeking HIV voluntary counseling and testing among tuberculosis patients in Cambodia

Siyan Yi [a], Krishna C. Poudel [a], Junko Yasuoka [a], Masao Ichikawa [a], Vutha Tan [b] & Masamine Jimba [a]

[a] Department of International Community Health, School of International Health, Graduate School of Medicine, The University of Tokyo, Tokyo, Japan

[b] Battembang Provincial Health Department, Ministry of Health, Battembang, Cambodia

Published online: 28 Apr 2009.

To cite this article: Siyan Yi , Krishna C. Poudel , Junko Yasuoka , Masao Ichikawa , Vutha Tan & Masamine Jimba (2009) Influencing factors for seeking HIV voluntary counseling and testing among tuberculosis patients in Cambodia, AIDS Care: Psychological and Socio-medical Aspects of AIDS/HIV, 21:4, 529-534

To link to this article: http://dx.doi.org/10.1080/09540120802270268

AIDS Care
Vol. 21, No. 4, April 2009, 529–534

Routledge
Taylor & Francis Group

Influencing factors for seeking HIV voluntary counseling and testing among tuberculosis patients in Cambodia

Siyan Yi[a], Krishna C. Poudel[a]*, Junko Yasuoka[a], Masao Ichikawa[a], Vutha Tan[b] and Masamine Jimba[a]

[a]*Department of International Community Health, School of International Health, Graduate School of Medicine, The University of Tokyo, Tokyo, Japan;* [b]*Battembang Provincial Health Department, Ministry of Health, Battembang, Cambodia*

(Received 12 November 2007; final version received 12 June 2008)

We explored the factors influencing voluntary counseling and testing (VCT) utilization among tuberculosis patients attending two referral hospitals in Cambodia. We conducted face-to-face interviews using a structured questionnaire. We compared HIV/AIDS knowledge, HIV testing attitudes, risks for exposure to HIV, and AIDS stigma between VCT users and non-users. Compared to VCT non-users, VCT users had significantly higher risks for HIV and were more likely to have used condoms. Regarding stigma, VCT non-users demonstrated significantly greater AIDS stigmatizing beliefs compared to VCT users. To increase VCT utilization among TB patients, we need effective strategies to reduce AIDS stigma among them. Moreover, initiation of routine HIV testing in TB facilities might be another effective solution.

Keywords: HIV/AIDS; voluntary counseling and testing (VCT); tuberculosis (TB); stigma; Cambodia

Introduction

Tuberculosis (TB) is the most common cause of death among people living with HIV/AIDS (PLWHA) (World Health Organization [WHO], 2004). The World Health Organization (WHO) recommends that in countries where HIV prevalence is at least 1% among adults and 5% among TB patients, all TB patients should be offered HIV testing and all PLWHA should be screened for TB (WHO, 2004). To increase uptake of HIV testing, WHO also recommends provider-initiated HIV testing and counseling (PITC) (WHO, 2007). For this, a pilot study in Zambia has already demonstrated that PITC in TB clinics is both acceptable and feasible for patients and clinic staffs (Mwinga et al., 2008).

In Cambodia, 13% of all TB patients are estimated to be HIV-infected (WHO, 2005). A study conducted in a province with Thai border among patients newly diagnosed with HIV or TB found that 38% of TB patients were HIV-infected and 24% of PLWHA had TB (Cain et al., 2007). Moreover, no sub-group of patients had low risk of HIV infection or TB, and mortality among HIV-infected TB patients was high (Cain et al., 2007).

By the end of 2005, 108 centers for voluntary counseling and testing (VCT) with free services were established in Cambodia. Since then, VCT promotion has been particularly emphasized among TB patients in TB units and health centers all over the country. Despite this effort, only 14–83% of TB patients were tested for HIV in four pilot sites in 2005 (Tan-Eang et al., 2007). Thus, it is important to examine what factors are deterring TB patients to seek VCT services in Cambodia.

Several factors have been identified for not seeking VCT in both developed and developing countries. They are AIDS stigma (Day et al., 2003; Kalichman & Simbayi, 2003), potential negative consequences, lack of post-test supports (Erbelding, Chung, & Zenilman, 2004; Herek, Capitanio, & Widaman, 2003; Hesketh, Duo, & Tomkins, 2005; Maman, Mbwambo, Hogan, Kilonzo, & Sweat, 2001; Pool, Nyanzi, & Whitworth, 2001), fear of partners' reaction, partners' attitudes towards HIV testing (Maman et al., 2001), fear of testing positive and ramifications of a positive test including disease and death (Day et al., 2003), doubt of the existence of AIDS (Sarah, 2003), and various quality aspects of VCT, in particular concerns about confidentiality (Fylkesnes, Haworth, Rosensvard, & Kwapa, 1999).

In Cambodia, a review of TB/HIV activities in four pilot provinces revealed some reasons why TB patients did not seek VCT. The reasons include misperception of HIV risks, unwillingness to know HIV status, expense of transportation, and time constraints (National Center for Tuberculosis and Leprosy Control [CENAT], 2005). Moreover, Wijngaarden and Fletcher (2001) found that stigma and discrimination against TB patients and PLWHA is substantial and may affect their care-seeking behaviors.

*Corresponding author. Email: kcpoudel@hotmail.com

ISSN 0954-0121 print/ISSN 1360-0451 online

DOI: 10.1080/09540120802270268
http://www.informaworld.com

However, the relation between AIDS stigma and VCT-seeking behavior has received little attention, especially among TB patients who are already stigmatized. Therefore, we conducted a cross-sectional study to explore the influence of AIDS stigma and other factors on VCT utilization among TB patients in Cambodia.

Methods

Settings

We conducted this study in Battembang province in the north-west region of Cambodia. In this province, a TB/HIV project had been implemented in two referral hospitals, Battembang and Maung Russey. Their goal was to improve VCT services and to reduce TB and HIV-related mortality by referring TB patients to the attached VCT centers. At VCT centers, HIV-positive patients were referred to TB centers for regular TB screenings. Those who had no active TB would receive Isoniazid and other opportunistic infection preventive therapy.

Participants

From February to April 2006, we recruited all TB patients (N = 185) who were aged 15–49 years from Battembang and Maung Russey hospital. All targeted TB patients volunteered to participate in the study except for two TB/HIV co-infected patients who were too sick to respond to the interviews.

Variables and measurements

Demographic characteristics included age, sex, marital status, occupation, years of education completed, distance from home to the nearest VCT center, and HIV testing history. We used one question concerning VCT-use history to classify participants into two groups, VCT users and non-users.

For independent variables, we first used a 13-item test adapted from a measure reported by Carey and Schroder (2002) to assess HIV/AIDS knowledge. We scored HIV/AIDS knowledge for the number of correct responses, with "don't know" responses scored as incorrect.

We then measured the participants' HIV testing attitudes using five items taken from a previous study on HIV testing and testing attitudes (Kalichman & Simbayi, 2003). The interviewees responded to the statements dichotomously, as either "agree" or "disagree".

To assess risks for exposure to HIV, we adapted a six-item test from a previous study (Kalichman & Simbayi, 2003). Condom use was defined as life-time use (ever). All responses were dichotomous indicating the occurrence or non-occurrence of each risk factor.

For measuring AIDS stigma, we adapted a 13-item test from a previous study (Kalichman & Simbayi, 2003). The AIDS stigma items reflect negative beliefs about PLWHA, shamefulness of the behavior of PLWHA, and endorsement of social sanctions against PLWHA. Responses to these items were dichotomous as either "agree" or "disagree".

Data collection

We conducted face-to-face interviews using a structured questionnaire. To assure validity of the questionnaire, we initially developed it in English and translated it into Khmer, the Cambodian language. Another translator back-translated it into English and compared with the original version. We modified some questions based on comments from health professionals who were experienced in TB/HIV control activities. Finally, we pre-tested the questionnaire and revised it accordingly.

The interviews were gender-matched and conducted during the day when TB patients came to receive directly observed treatment short-course (DOTS) or with patients in their beds. Each interview was conducted in a private place in TB units for about 30 minutes by four trained interviewers.

Data analyses

We conducted comparisons between VCT users (n = 121) and VCT non-users (n = 33) on demographic characteristics, HIV/AIDS knowledge, HIV testing attitudes, risks for exposure to HIV, and AIDS stigma using Chi-square or Fisher's exact test as appropriate. We used Statistical Package for the Social Sciences (SPSS) for Windows version 12 (SPSS Inc., Chicago, IL, USA) for all analyses.

Ethical consideration

Participation in this study was voluntary. The interviewers read informed consent form to participants before asking for their signatures or fingerprints. They also emphasized the confidentiality of personal information obtained in the study and participants' rights to decline to participate in this study. The study was approved by the National Ethics Committee for Health Research, Ministry of Health, Cambodia.

Results

Demographic characteristics

Demographic characteristics of the participants are summarized in Table 1. The mean age of the

Table 1. Characteristics of TB patients who had and had not used VCT (n = 154).

	n	%
Gender		
Male	75	49
Female	79	51
Age		
15–25	23	15
26–35	54	35
36–45	66	43
>45	11	7
Marital status		
Single	22	14
Married	72	47
Divorced	5	3
Separated	55	36
Occupation		
Farmer	79	51
Self-business	21	14
Government staff	14	9
Student	3	2
Others	37	24
Education		
No schooling	38	25
Primary school	65	42
Secondary school	29	19
High school and higher	22	14
Distance from home to a VCT center*		
20 minutes or less	79	51
More than 20 minutes	75	49
VCT-use history		
Yes	121	79
No with plan to use	4	3
No without plan to use	29	19
HIV-testing history		
Yes	122	79
No	32	21

*Using median as the cut-off point.

participants was 34.6 years (SD = 7.9). Out of 154, 75 were men (49%), 132 were ever-married (86%), and 79 were farmers (51%). Fifty-one had completed secondary education or higher (33%) and 121 had used VCT services prior to the study (79%).

In comparisons between VCT users and non-users, 44% of the VCT users were men compared to 67% among non-users (OR = 0.3, 95% CI = 0.17–0.87). Ninety-one percent of VCT users were ever married compared to 67% of non-users (OR = 0.2, 95% CI = 0.07–0.51). Finally, 46% of VCT users lived within 20 minutes from the nearest VCT center by motorbike, compared to 73% of non-users (OR = 0.3, 95% CI = 0.13–0.72).

HIV/AIDS knowledge

HIV/AIDS knowledge was generally good among participants in this study; 84% of the answers to knowledge test were correct across the total participants. However, there was evidence of important misinformation among the participants. For example, 44% of all participants incorrectly answered to "must a person have many different sex partners to get AIDS?", 31% incorrectly answered to "does washing after sex help protect against AIDS?", and 23% incorrectly answered to "is HIV the virus that causes AIDS?" No significant difference was detected between VCT users and non-users.

HIV testing attitudes

HIV testing was supported by the majority of participants. For example, 96% of the total participants agreed that "getting tested for HIV helps people feel better" and 87% agreed that "getting tested for HIV helps protect people from getting HIV". However, a proportion of participants perceived adverse outcomes from HIV testing and supported testing avoidance. For example, 23% of the total participants agreed that "people in my life would leave me if I have AIDS", and 22% agreed that "people who test HIV positive should hide it from others". However, no significant difference was detected between VCT users and non-users.

Risks for exposure to HIV

As shown in Table 2, the following HIV risk behaviors were significantly less common among VCT non-users than among users; (1) received an STI diagnosis (OR = 0.2, 95% CI = 0.08–0.81) and (2) had a genital ulcer history (OR = 0.1, 95% CI = 0.04–0.79). Moreover, VCT non-users were significantly less likely to have used a condom compared to users (OR = 0.2, 95% CI = 0.11–0.72).

AIDS stigma

The results of comparisons showed that VCT non-users held significantly greater HIV/AIDS stigmatizing beliefs than VCT users (Table 3). VCT non-users were significantly more likely to agree that PLWHA are dirty (OR = 2.3, 95% CI = 1.04–5.40), cannot be trusted (OR = 2.4, 95% CI = 1.10–5.56), must have done something wrong (OR = 4.2, 95% CI = 1.65–11.11), and should not be allowed to work (OR = 2.9, 95% CI = 1.03–8.59). Furthermore, VCT non-users were more likely to endorse that they would feel uncomfortable if they have a neighbor who has AIDS (OR = 3.0, 95% CI = 1.26–7.42) and less likely to

Table 2. Comparisons of risks for exposure to HIV among TB patients who had and had not used VCT.

	VCT-use history				
	Non-users (n = 33)		Users (n = 121)		
	N	%	N	%	OR (95% CI)
Ever used a condom*	7	21	58	48	0.2 (0.11–0.72)
Received an STD diagnosis	4	12	41	34	0.2 (0.08–0.81)
Had a genital ulcer	2	6	32	26	0.1 (0.04–0.79)
Had two or more sex partners	1	3	10	8	0.3 (0.04–2.81)
Had traded sex	2	6	17	14	0.3 (0.08–1.80)
Ever used injected drugs	1	3	2	2	1.8 (0.16–21.16)

Note: OR, odds ratio; CI, confidence interval. *Condom use was defined as life-time use. Fisher's exact test was used in cases where one or more cells had an expected count of less than 5.

agree that PLWHA have nothing to feel guilty about (OR = 0.3, 95% CI = 0.17–0.83).

Discussion

This study is the first report on factors influencing VCT utilization among TB patients. Our findings provide additional information to the previous research conducted among general population (Kalichman & Simbayi, 2003) and mineworkers (Day et al., 2003) on AIDS stigma and HIV testing. Given the history of stigma experienced by Cambodian TB patients (Wijngaarden & Fletcher, 2001), it is not surprising that TB patients who have AIDS stigmatizing beliefs would avoid VCT for HIV testing that potentially adds another source of stigma and discrimination.

Our results showed that VCT users had significantly higher HIV risks including more experiences of receiving an STI diagnosis and having genital ulcer. This suggests that TB patients who engaged in high HIV risk practices might have more concerns about

Table 3. Comparisons of AIDS stigma among TB patients who had and had not used VCT.

	VCT-use history				
	Non-users (n = 33)		Users (n = 121)		
	N	%	N	%	OR (95% CI)
PLWHA are dirty	13	39	26	22	2.3 (1.04–5.40)
PLWHA cannot be trusted	22	67	54	45	2.4 (1.10–5.56)
PLWHA have nothing to feel guilty about	15	46	83	79	0.3 (0.17–0.83)
It is safe for PLWHA to work with children	33	100	116	96	1.2 (1.17–1.39)
PLWHA must have done something wrong and deserved to be punished	27	82	62	52	4.2 (1.65–11.11)
PLWHA should not be allowed to work	7	21	10	8	2.9 (1.03–8.59)
I would feel uncomfortable if I have a neighbor who has AIDS	11	33	17	14	3.0 (1.26–7.42)
PLWHA should feel ashamed of themselves	26	79	88	73	1.3 (0.55–3.51)
PLWHA are like everybody else	31	94	115	95	0.8 (0.15–4.20)
PLWHA should move out of their homes	2	6	21	17	0.3 (0.06–1.38)
Most people become HIV positive by being weak and foolish	24	73	90	74	0.9 (0.38–2.18)
PLWHA must expect restrictions on their freedom	20	61	67	55	1.2 (0.57–2.76)
PLWHA should be prohibited from using public medical facilities	2	6	4	3	1.8 (0.33–10.78)

OR, odds ratio; CI, confidence interval; PLWHA, people living with HIV/AIDS. Fisher's exact test was used in cases where one or more cells had an expected count of less than 5.

HIV testing, and therefore were more likely to use VCT. These findings can be concerning because many TB patients may think that they are not at risks for HIV and they do not need to be tested while they are all in high risk group since they have TB (Cain et al., 2007).

Interestingly, data showed that 20% of participants in this study did not know a VCT center which was located in the hospital where they were receiving TB treatment. This indicates that TB patients were not sufficiently informed about VCT services.

This study provides information about factors that potentially influence VCT utilization among TB patients in Cambodia. However, we need to consider important limitations when we interpret these findings. First, self-reported measures could result in under-reporting and over-reporting. To address this problem, the interviews were gender-matched and conducted in a private place on an individual basis. Second, due to a small number of VCT non-users, multiple regression analyses were not possible. Third, we included only TB patients in hospitals with a VCT on-site. Because of this, the generalizability of the findings is limited. Finally, as with all cross-sectional research, causal inferences need to be interpreted carefully.

In conclusion, this study supports that AIDS stigma is a potential barrier for TB patients to seek VCT services. Efforts to promote VCT utilization require effective strategies to reduce stigmatizing beliefs towards PLWHA among TB patients. Moreover, TB care providers should pay more attention on providing information related to HIV testing to all TB patients. Initiation of routine HIV testing in TB facilities might be required, so that TB providers can offer HIV counseling and testing on spot without patients going to a VCT center.

Acknowledgements

The authors gratefully acknowledge all participants and research assistants taking part in this study. In particular, the study would not have been possible without supports from the Director of the National Center for Tuberculosis and Leprosy Control (CENAT), the director of Battembang Provincial Health Department, and the directors and all TB staff members of Battembang and Maung Russey referral hospital.

References

Cain, K.P., Kanara, N., Laserson, K.F., Vannarith, C., Sameoun, K., Samnang, K., et al. (2007). The epidemiology of HIV-associated tuberculosis in rural Cambodia. *International Journal of Tuberculosis and Lung Diseases*, *11*, 1008–1013.

Carey, M.P., & Schroder, K.E. (2002). Development and psychometric evaluation of the brief HIV knowledge questionnaire (HIV-KQ-18). *AIDS Education and Prevention*, *14*, 174–184.

Day, J.H., Miyamura, K., Grant, A.D., Leeuw, A., Munsamy, J., Baggaley, R., et al. (2003). Attitudes to HIV voluntary counseling and testing among mineworkers in South Africa: Will availability of antiretroviral therapy encourage testing? *AIDS Care*, *15*, 665–672.

Erbelding, E.J., Chung, S., & Zenilman, J.M. (2004). Following up for HIV test results: What limits return in an STD clinic population? *International Journal of STD & AIDS*, *15*, 29–32.

Fylkesnes, K., Haworth, A., Rosensvard, C., & Kwapa, M.P. (1999). HIV counseling and testing: Overemphasizing high acceptance rates a threat to confidentiality and the right not to know. *AIDS*, *13*, 2469–2474.

Herek, G.M., Capitanio, J.P., & Widaman, K.F. (2003). Stigma, social risk and health policy: Public attitude toward HIV prevalence policies and the social construction of illness. *Health Psychology*, *22*, 533–540.

Hesketh, T., Duo, L., Li, H., & Tomkins, A.M. (2005). Attitudes to HIV and HIV testing in high prevalence areas of China: Informing the introduction of voluntary counseling and testing programs. *Sexually Transmitted Infections*, *81*, 108–112.

Kalichman, S.C., & Simbayi, L.C. (2003). HIV testing attitude, AIDS stigma, and voluntary HIV counseling in black town ship in Cape Town, South Africa. *Sexually Transmitted Infections*, *79*, 442–447.

Maman, S., Mbwambo, J., Hogan, N.M., Kilonzo, G.P., & Sweat, M. (2001). Women's barriers to HIV-1 testing and disclosure: Challenges for HIV-1 voluntary counseling and testing. *AIDS Care*, *13*, 595–603.

Mwinga, A., Mwananyambe, N., Kanene, C., Bulterys, M., Phiri, C., & Kapata, N. (2008). Provider-initiated HIV testing and counseling of TB patients – Livingstone District, Zambia, September 2004–December 2006. *Morbidity and Mortality Weekly Report*, *57*, 285–289.

National Center for Tuberculosis and Leprosy Control (CENAT). (2005). *TB/HIV activities in four pilot provinces*. National TB annual conference, Phnom Penh, Cambodia.

Pool, R., Nyanzi, S., & Whitworth, J.A. (2001). Attitudes to voluntary counseling and testing for HIV among pregnant women in rural southwest Uganda. *AIDS Care*, *13*, 605–615.

Sarah, C. (2003). Doubting the existence of AIDS: A barrier to voluntary HIV testing and counseling in urban Mali. *Health Policy and Planning*, *18*, 146–155.

Tan-Eang, M., Chheng, P., Napratan, C., & Kimerling, M.E. (2007). Lesson from TB/HIV integration in Cambodia. *Bulletin of the World Health Organizations*, *85*, 382–383.

Wijngaarden, J.W.L., & Fletcher, G. (2001). *Ideas, attitudes, and TB treatment-seeking behavior among AIDS and TB patients in Phnom Penh, Cambodia. Phnom Penh, Cambodia: FHI/IMPACT Cambodia.* from: http://www.dom.uab.edu/geomed/gorgastb/Documents/PatientattitudesFinal.pdf.

World Health Organization. (2004). *Interim policy on collaborative TB-HIV activities (WHO/HTM/TB/2004.330)*. Geneva, Switzerland: Author.

World Health Organization (2005). WHO report, 2005. *Global tuberculosis control: Surveillance, planning, financing (WHO/HTM/TB/2005.349)*. Geneva, Switzerland: Author.

World Health Organization. (2007). *Guidance on provider-initiated HIV testing and counseling in health facilities*. Geneva, Switzerland: Author.