

エイズ・結核包括的診療アプローチ 活 動

1. SHCH・HIVクリニックおよびTBクリニックの患者に対するHIV、TB教育とスクリーニング
 - 1—1. 感染症科(エイズ・結核)担当者を設定
 - 1—2. 全HIV感染症患者のTB教育とスクリーニング
 - 1—3. 全結核症患者のHIV教育とVCT受診
 - 1—4. エイズ・結核合同チームミーティング・ボランティア教育
 - 1—5. エイズ・結核合併症例に対するチーム診療

エイズ・結核包括的診療アプローチ 活 動

2. TB患者も含めた家庭訪問ケア
全身状態の悪い患者、HIV感染が疑われる患者が対象。
3. 患者家族に対する能動的症例発見
患者家族にもスクリーニングを実施。

エイズ・結核包括的診療アプローチ 活 動

4. NTPとの連携診療

- 4—1. NTP定例ミーティングにて紹介患者間の
フォローアップ、治療成績の確認
- 4—2. エイズ・結核症例検討会
- 4—3. NTP転出患者の追跡調査

考 察

- 2003年6月にWHOのTB/HIV Global Working Group は“Two diseases – one patient”(1人の患者に2つの疾患)のテーマで第3回会議を実施。
- 患者中心、結核・エイズプログラムと一般医療保健サービス間の協力的かつ結核・エイズ流行の変化に応じた活動、持続的な改善のために既存の手段と機構の有効使用、結核・エイズのケア・予防策の開発・実施・早急拡大のための世界戦略、のビジョンが挙げられた。
- 具体的には、結核患者の発見と治癒の改善、HIVテストの普及、抗HIV療法の広域な提供、の3つを組み合わせることを有益であると結論付けた。

結 語

- カンボジア、プノンペン市のNGO病院の結核・エイズ診療の経験と今後のビジョンについて発表した。
- 今後の結核・エイズ包括的診療モデル、及び国家保健政策とNGOとの連携モデルの1つとなっていくことを期待している。

プノンペン市の結核患者の3分の1以上が HIV 陽性－
カンボジア王国全結核患者登録者（2003年1月）での HIV 感染率調査研究

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資料 IX

More than one-third of TB patients in Phnom Penh were HIV positive – a result of a nation-wide HIV survey among TB patients registered in Cambodian National TB program in January 2003

Background: A nation-wide survey to determine HIV seroprevalence among TB patients in Cambodia was conducted in 2003. It also complemented the results of National TB Prevalence Survey in 2002 for thorough analysis of TB situation, with attention to increasing number of TB notification and death during anti-TB treatment.

Methods: Anonymous blood samples with basic background information were collected from all TB patients diagnosed in January 2003 at all 160 TB diagnostic centers across the country. Known HIV positive patients were also included in the survey. Oral informed consent was obtained. All specimens were sent for serological test to the National TB Central Laboratory.

Results: Among 2,295 TB patients contacted by the survey team, 25 were unable to confirm their TB diagnosis and excluded from analysis. Serum from 2,244 (97.8%) out of 2,270 confirmed TB patients was collected. Overall HIV prevalence rate was 11.8%. Of these, HIV positive rates among smear positive new TB patients, smear negative TB patients, and extra-pulmonary TB patients were 8.5%, 21.9% and 19.7%, respectively. The capital city of Phnom Penh marked the highest positive rate of 34.3%. Only one north-eastern province had no HIV-positive TB patient. Logistic Regression Analysis showed that factors associated with HIV seropositivity were resident in Thai border provinces (AOR: Adjusted Odds Ratio=1.92, 95%CI 1.31-2.79), in Coastal provinces (AOR=2.47, 95%CI 1.44-4.21), and in Phnom Penh (AOR=4.63, 95% CI 2.12-6.87), aged between 25 and 34 years old (AOR=6.73, 95%CI 3.52-12.88), having smear negative TB (AOR=2.55, 95%CI 1.77-3.67), and extra-pulmonary TB (AOR=1.99 95CI 1.36-2.91).

Conclusions: HIV seroprevalence rate among TB patients is high in Cambodia. However, it varies with the provinces, affecting outcomes of TB treatment. Continuous monitoring is essential and the geographic differences should be considered when TB/HIV control strategies and work plans are developed.

The final results on January 13, 2004

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INTRODUCTION:

Cambodian National Tuberculosis Program (NTP) has been conducting National Tuberculosis (TB) Prevalence Survey since April 2002 to investigate the whole picture of TB in the country (annual risk of tuberculosis infection: ARTI, prevalence of active TB, health seeking behavior, etc) and the effectiveness of interventions taken to reduce the burden of TB. For this purpose, it is desirable nowadays to take into account human immune-deficiency virus (HIV) prevalence to TB surveys as magnitude of HIV infection in a community changes presentation of TB.

The NTP has recently observed increase in the number of death during TB treatment, the number of smear negative pulmonary TB, and extra-pulmonary TB cases, for example. These phenomena are considered to be mostly due to HIV epidemic. However, examination of HIV by taking blood together with the TB survey seemed to be irrelevant because the possibility to lose a large number of people willing to participate to the original survey itself would be too serious to ignore. As a result, the ongoing TB survey in community started without HIV testing in order to ensure enough participation rate.

The HIV sentinel surveillance by National AIDS program that included TB patients as one sentinel group in Cambodia initiated in 1994. Although it has been producing valuable data and its enough sample size enables us to grasp overall trend of HIV prevalence among sentinel groups, the sample of TB patients in the recent surveillance cannot be considered as national representative of current decentralized TB program. That is, the sample was not selected from Health Centers newly equipped diagnostic skills of TB. Furthermore, real impact of HIV upon TB control program would not be able to obtain by the surveillance among only smear positive TB patients, although it is the method of internationally comparable study, which National Center of HIV/AIDS, Dermatology, and STDs (NCHADS) followed.

Based on reasons above, the NTP would like to conduct National HIV seroprevalence surveillance among patients of all forms of TB as supplement of the TB Prevalence Survey after the survey is completed in the middle of December 2002. The coming HIV surveillance will be carried out along with Ministry of Health and WHO guidelines and under close guidance of TB/HIV sub-committee, CENAT-NCHADS collaboration and with cooperation of each Provincial Health Department (PHD). CENAT/JICA National TB Control Project and WHO will provide financial and technical support throughout the surveillance.

Survey was conducted to determine HIV prevalence among TB patients (both smear positive TB and all forms of TB)

METHODS:

All TB patients diagnosed within January 2003 except those who are transferred in were contacted and enrolled as a representative sample. It should be noted by all staff concerned that KNOWN HIV POSITIVE TB patients would also be eligible for HIV testing in this survey.

Laboratory procedures

Particle agglutination assay (Serodia HIV1/2, FUJIREBIO, Tokyo, Japan) and immunochromatography (Determine HIV1/2, ABBOTT, Germany) were simultaneously used. The serums, which react to both tests, were considered as positive. Those who react to only one test was further examined by confirmatory HIV testing.

Data management and analysis

All data collection forms will be carefully checked for errors prior to analysis. The CENAT staff responsible for data management and analysis will link demographic data with HIV test result. Data will be entered into a computerized database using Excel and Epi-info. Double-entry and validation will be performed.

RESULTS:

Total of 2,295 patients were contacted and 25 were excluded in the analysis, since the confirmation of TB diagnosis was not obtained. The reasons for exclusion were: the diagnoses of pulmonary TB was made by smear-negative and no chest X-ray (16); the site of extra pulmonary TB was not mentioned (1); the information on TB site, smear result and chest X-ray were not documented (8).

Finally, there were 2,270 confirmed TB patients. Among them, 1,665(73.3%), 308(13.6%), 297(13.1%) were smear-positive pulmonary TB, smear-negative pulmonary TB, extra-pulmonary TB, respectively. (Those who have both pulmonary and extra-pulmonary TB were classified to pulmonary TB. There were 2,169(95.6%), 84(3.7%), 8(0.4%), and 9(0.4%) new, relapse, other-retreatment, and unknown category TB cases.

Among 2,270 confirmed TB patients, serums were obtained for 2,244 (97.8%). The reasons of non-participation among 26 were as follows: the patients died before blood was taken (1); difficult to draw blood (technical problem) (4); the patient did not appear for blood drawing (1); the patient did not consent, because the patient already knew HIV status (1).

Overall HIV prevalence were 11.8% (265 among 2,244 TB patients)

DISCUSSION:

Overall HIV prevalence among TB patients in Cambodia became higher as compared with 2.5% in 1995, 3.9% in 1996, 5.2% in 1997, 7.9% in 1999, 6.0% in 2001 and 8.4% in 2002 [1].

HIV prevalence among TB patients in Phnom Penh becomes constantly higher as 34.3%.

Thai border (B Meanchey and Oudor Meanchey provinces: 12.0%) and coastal area (Kg Som and Koh Kong provinces: 28.3%, Battam Bang and Pailin provinces: 14.3%) are hot-spots for the TB/HIV. There are needs of intervention for TB/HIV in the provincial level.

In Siem Reap, HIV prevalence among TB patients was 12.5%, which is considered low compared with HIV prevalence among pregnant women there. In Cambodia, HIV prevalence among pregnant women is 2.8%. [1]

Our survey has strength to have cases from the whole sampling from NTP registration. NCHAD survey is hospital-based sample which may have some bias depends on the operation. Tendency to obtain the prevalent case – HIV person tend to die, thus becomes lower (sampling bias).

Some of the provinces enroll very few TB cases. We need to ascertain the number of TB patients by category and site of TB in January 2003 from the registry information reported to NTP-Cambodia. If it is quarterly report, we cannot obtain the exact number of annual registered TB patients (and also because of unlinked nature), but we can compensate it by multiplying the patient number of the quarterly report by four. Using such information, some of the provinces will be identified some potential bias.

Applying 10% of HIV prevalence to annual TB cases number of 25,000 in 2002 [2], 2,500 HIV-infected TB patients may have been treated by NTP. It is estimated 170,000 HIV-positive persons in Cambodia in 2001 [3]. Preliminary data from TB screening data in HIV-infected person followed at CENAT afternoon clinic, 9% of annual TB incidence [4]. Suppose, we use 10% annual TB incidence rate, there are 17,000 HIV-infected TB patients in Cambodia. Therefore, maximally, only 1/7 of HIV-infected TB cases have been treated by NTP. Cambodian NTP may need to improve the clinical capability for HIV-infected TB patients in order to detect underlying patients. This effort may also result in improvement of the treatment outcome followed by reducing the mortality.

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By sex

	Total	HIV(+)	%	95% CI
Male	1189	161	13.5	11.7-15.6
Female	1155	104	9.9	8.2 - 11.9
Total	2244	265	11.8	10.5- 13.2

By age

AgeGroup	TOTAL	HIV(+)	%	95%CI
0-14	60	9	15.0	7.1 - 26.6
15-24	216	21	9.7	6.1 - 14.5
25-34	346	94	27.2	22.6 - 32.2
35-44	503	85	16.9	13.8 - 20.5
45-54	438	25	5.7	3.8 - 8.4
55-64	402	19	4.7	2.9 - 7.4
>=65	279	12	4.3	2.2 - 7.4
TOTAL	2244	265	11.8	10.5- 13.2

By site

TB Site	TOTAL	HIV(+)	%	95% CI
Sm(+) PTB	1644	140	8.5	7.2 - 10.0
Sm(-) PTB	306	67	21.9	17.5 - 27.0
EPTB	294	58	19.7	15.3 - 24.7
TOTAL	2244	265	11.8	10.5- 13.2

By category

Treatment Category	TOTAL	HIV(+)	%	95%CI
New	2146	249	11.6	10.3 - 13.1
Relapse	83	13	15.7	8.6 - 25.3
Other re-treatment	7	1	14.3	0.4 - 57.9
unknown	8	2	25.0	3.2 - 65.1
TOTAL	2244	265	11.8	10.5- 13.2

By Nationality

Nationality	TOTAL	HIV(+)	%	95%CI
Cambodian	2221	255	11.5	10.2 - 12.9
non Cambodian	23	10	43.5	23.2 - 65.5
TOTAL	2244	265	11.8	10.5- 13.2

By Registration Site

Area	n	HIV(+)	%HIV	95%CI
Province Capital	930	100	10.8	8.9 - 13.0
Province non Capital	1025	66	6.4	5.0 - 8.2
Phnom Penh	289	99	34.3	28.8 - 40.0
TOTAL	2244	265	11.8	10.5- 13.2

By province

Province	TOTAL	HIV(+)	%	95%CI
Kandal	154	15	9.7	5.6 - 15.6
Svay Rieng	164	6	3.7	1.4 - 7.8
Phnom Penh	289	99	34.3	28.8 - 40.0
Pursat	72	4	5.6	1.5 - 13.6
Battam Bang	106	14	13.2	7.4 - 21.2
Pailin	6	2	33.3	4.3 - 77.7
B. Meanchey	86	10	11.6	5.7 - 20.3
Siem Reap	216	27	12.5	8.4 - 17.7
Oudor Meanche	31	4	12.9	3.6 - 29.8
Kg Thom	115	2	1.7	0.2- 6.1
Takeo	137	9	6.6	3.0 - 12.1
Kg Speu	105	4	3.8	1.0 - 9.5
Kampot	77	6	7.8	2.9 - 16.2
Krong Kep	4	1	25.0	0.6 - 80.6
Kg Som	33	11	33.3	18.0 - 51.8
Koh Kong	20	4	20.0	5.7 - 43.7
Prey Veng	211	22	10.4	6.7- 15.4
Kg Chnnang	109	6	5.5	2.0 - 11.6
Kratie	46	5	10.9	3.6 - 23.6
Kg Cham	205	11	5.4	2.7- 9.4
Stung Treng	15	1	6.7	0.2 - 31.9
Preah Vihear	27	1	3.7	0.1- 19.0
Mondul Kiri	6	0	0.0	0
Rattanakiri	10	1	10.0	0.3- 44.5
TOTAL	2244	265	11.8	10.5- 13.2

By province group

ProvinceGroup	TOTAL	HIV(+)	%	95%CI
Kandal	154	15	9.7	5.6 - 15.6
Svay Rieng	164	6	3.7	1.4 - 7.8
Phnom Penh	289	99	34.3	28.8 - 40.0
Pursat	72	4	5.6	1.5 - 13.6
Battam Bang	112	16	14.3	8.4 - 22.2
Pailin				
B. Meanchey	117	14	12.0	6.7 - 19.3
Oudor Meanche				
Siem Reap	216	27	12.5	8.4 - 17.7
Kg Thom	115	2	1.7	0.2 - 6.1
Takeo	137	9	6.6	3.0 - 12.1
Kg Speu	105	4	3.8	1.0 - 9.5
Kampot	81	7	8.6	3.5 - 17.0
Krong Kep				
Kg Som	53	15	28.3	16.8 - 42.3
Koh Kong				
Prey Veng	211	22	10.4	6.7 - 15.4
Kg Chnnang	109	6	5.5	2.0 - 11.6
Preah Vihear	104	8	7.7	3.4 - 14.6
Kratie				
Stung Treng				
Mondul Kiri				
Rattanakiri				
Kg Cham	205	11	5.4	2.7 - 9.4
TOTAL	2244	265	11.8	10.5 - 13.2

New smear (+) Pulmonary TB by province group

ProvinceGroup	TOTAL	HIV(+)	%HIV	95%CI
Kandal	105	7	6.7	2.7 - 13.3
Svay Rieng	104	2	1.9	0.2 - 6.8
Phnom Penh	141	32	22.7	16.1 - 30.5
Pursat	47	3	6.4	1.3 - 17.5
Battam Bang	68	9	13.2	6.2 - 23.6
Pailin				
B. Meanchey	91	9	9.9	4.6 - 17.9
Oudor Meanche				
Siem Reap	164	10	6.1	3.0 - 10.9
Kg Thom	93	1	1.1	0.0 - 5.8
Takeo	86	3	3.5	0.7 - 9.9
Kg Speu	89	3	3.4	0.7 - 9.5
Kampot	62	2	3.2	0.4 - 11.2
Krong Kep				
Kg Som	36	9	25.0	12.1 - 42.2
Koh Kong				
Prey Veng	174	20	11.5	7.2 - 17.2
Kg Chnnang	86	3	3.5	0.7 - 9.9
Preah Vihear	63	5	7.9	2.6 - 17.6
Kratie				
Stung Treng				
Mondul Kiri				
Rattanakiri				
Kg Cham	149	9	6.0	2.8 - 11.2
TOTAL	1558	127	8.2	6.9 - 9.6

New TB cases by Area

	All Type	Sm(+)PTB		Sm(-)PTB and EPTB	
	Total	Total	%HIV	Total	%HIV
All New Cases	2146	1558	8.2	588	20.7
Province					
Phnom Penh	279	141	22.7	138	45.7
Thai Border Provinces	427	323	8.7	104	23.1
Costal Provinces	127	98	11.2	29	27.6
North East Provinces	102	63	7.9	39	7.7
Others	1211	933	5.5	278	8.6

1. Thai Border Provinces include Oudor Meanche, B. Meanchey, Siem Reap, Battam Bang, and Pailin provinces.
2. Costal Provinces include Kampot, Krong Kep, Kg Som, and Koh Kong provinces.
3. North East Provinces include Pheah Vihear, Stung Treng, Kratie, Mondul Kiri, and Rattanakiri provinces.
4. Others include Kandal, Svay Rieng, Pursat, Kg Thom, Takeo, Kg Spu, Prey Veng, Kg Chnnang, and Kg Cham.

Logistic Regression Analysis of risk factors on HIV prevalence in Cambodia, 2003 January

factor	AOR*	95%C.I	p-value
Province Area			
Others	reference		
North East provinces	0.85	(0.39-1.89)	0.70
Thai border provinces	1.92	(1.31-2.79)	<0.01
Costal provinces	2.47	(1.44-4.21)	<0.01
Phnom Penh	4.63	(2.12-6.87)	<0.01
Provincial Capital or not			
Province non Capital	reference		
Province Capital & PP	1.55	(1.10-2.20)	<0.01
Age group			
more than 65	reference		
55-64	1.13	(0.53-2.41)	0.75
45-54	1.32	(0.64-2.73)	0.45
35-44	4.06	(2.13-7.73)	<0.01
25-34	6.73	(3.52-12.88)	<0.01
15-24	1.85	(0.86-3.97)	0.11
0-14	1.74	(0.66-4.59)	0.26
Sex			
Male	reference		
Female	0.77	(0.58-1.03)	0.08
Nationality			
Cambodian	reference		
Non-Cambodian	3.14	(1.13-8.70)	0.03
Category			
New	reference		
Not-new	2.04	(1.09-3.82)	0.03
TB-site			
Smear-positive PTB	reference		
Smear-negative PTB	2.55	(1.77-3.67)	<0.01
EPTB	1.99	(1.36-2.91)	<0.01

*AOR: Adjusted Odds Ratio **Provincial Area Category: Others: Kandal, Svay Rieng, Pursat, Kg Thom, Takeo, Kg Speu, Prey Veng, Kg Chhnang, Kg Cham North East Provinces: Preah Vihear, Preah Vihear, Stung Treng, Kratie, Kratie, Mondul Kiri, Rattanakiri, Thai Border: Oudor Meanche, B. Meanchey, Siem Reap, Battam Bang, Pailin, Costal Provinces: Kampot, Krong Kep, Kg Som, Koh Kong, Phnom Penh

III 研究成果の刊行に関する 一覧表

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