Implementation of TB/HIV collaboration program in Phnom Penh, Cambodia

Yoko Tsurugi1, 2, Khun Kim Eam3, Mao Tan Eang3, Ritei Uehara2, Yosikazu Nakamura2, Kuniko Murakami3, Tatsuo Sugiyama1, Norio Yamada1, Nobukatsu Ishikawa1

1) The Research Institute of Tuberculosis, Tokyo, Japan
2) Department of Public Health, Jichi Medical University, Tochigi, Japan
3) National Center for Tuberculosis and Leprosy Control (CENAT), Phnom Penh, Cambodia

Abstract

Background

The national tuberculosis (TB) control program established Phnom Penh as a pilot area for TB and human immunodeficiency virus (HIV) infection collaborative activities because of the high prevalence of HIV among patients with TB.

Process

In 2005, we provided transportation fees so that patients could travel to an operational district referral hospital for HIV counseling and testing by dispatched counselors. However, only around 10.3 patients with TB (range 0-21) per month in all 4 operational districts made use of this service. In 2006, we modified the program by providing HIV counseling and testing by four trained TB/HIV coordinators in TB wards. Thereafter, in-depth, individual, semi-structured interviews were conducted with the TB staff (not the coordinators) of 18 health facilities from April through November 2006 to identify problems in the current TB/HIV collaborative activities in Phnom Penh and to investigate ways for further improving the program.

Results

TB staff members encouraged their patients to undergo an HIV test under directly observed treatment, short course. Some TB staff lacked confidence to discuss HIV issues because they lacked sufficient HIV/ acquired immunodeficiency disease syndrome (AIDS) knowledge. Furthermore, there was no formal referral structure between TB and HIV services or sharing of information on the treatment of patients co-infected with TB/HIV with the antiretroviral treatment clinic.

Conclusions

We started the program to enable TB patients to receive HIV counseling and testing at the same venue as they received TB treatment. However, problems such as low confidence among TB staff in discussing HIV/AIDS and weak collaboration between TB and HIV services were identified. We found that training of TB staff, development of Information, Education and Communication (IEC) materials, regular meetings among stakeholders, and encouragement for the TB/HIV coordinators to supervise all TB/HIV activities in their operational districts were needed to improve the program.

Keywords: TB-HIV, HIV testing and counseling, Tuberculosis, HIV, Cambodia
I. Background and implemented activity

The Cambodian population is severely affected by both tuberculosis (TB) and human immunodeficiency virus (HIV). The prevalence of HIV among patients with TB in Cambodia was 11.8% in 2003, 9.9% in 2005, and 7.8% in 2007; and it was highest in Phnom Penh at 34.3% in 2003, 26.0% in 2005, and 21.7% in 2007. Since the national framework for TB/HIV was launched through the combined efforts of the national TB and HIV/acquired immunodeficiency disease syndrome (AIDS) control programs in 2002, pilot activities of TB/HIV collaborative programs in four areas began with assistance from international agencies. Phnom Penh was one of the pilot areas and activities were supported by Japan International Cooperation Agency (JICA) National TB Control Project.

To determine the status of TB and HIV services before commencing new activities, we questioned TB medical supervisors on the situation and visited each facility that offers TB and HIV services in Phnom Penh. Figure 1 shows the structure of the TB and HIV services in Phnom Penh around 2005. Phnom Penh is divided into four operational districts. Altogether, referral hospitals and health centers offer TB services within the municipal health administration in Phnom Penh under the national TB control program. Patients with suspected or diagnosed TB come to a referral hospital or health center near their home for diagnosis and treatment by directly observed treatment, short course (DOTS). One to three TB staff members (medical doctor, medical assistant, or nurse) work in the TB ward (for both outpatients and inpatients) of the referral hospital or health center for diagnosis and treatment of TB. With regard to HIV services, by the end of 2005 there were 23 voluntary and confidential HIV counseling and testing centers, nine antiretroviral treatment (ART) clinics, and 17 home-based care teams providing care to people living with HIV in the community under the national HIV/AIDS control program. However, only four voluntary and confidential HIV counseling and testing centers and 13 home-based care teams were located in referral hospitals or health centers, and there were no ART clinics that were managed directly by municipal health departments in 2005. Some voluntary and confidential HIV counseling and testing centers and ART clinics were.

---

Figure 1 Stakeholders for TB/HIV program in Phnom Penh around 2005

HIV = Human Immunodeficiency Virus
AIDS = Acquired Immunodeficiency Syndrome
TB = Tuberculosis
NGO = Nongovernmental Organization
VCCT = Voluntary Confidential HIV Counseling and Testing
HBCT = Home Based Care Team
and continue to be, managed by nongovernmental organizations, and home-based care teams are typically supported by local or international nongovernmental organizations. As noted above, although there are many health facilities that offer TB and HIV services, the facilities are managed by different programs or organizations and work independently of each other. In addition, in 2005, communication between each of the different stakeholders was poor because of this vertically integrated administration.

The national TB control program carries out several TB/HIV collaborative activities. One, started in 2001, is a TB screening clinic in the national TB hospital for patients infected with HIV. Since 2005, another new program has been offered to improve the accessibility of HIV services for patients with TB. Counselors were dispatched to four operational district hospitals once or twice every month to offer HIV counseling and testing service customized for patients with TB. The transportation fee for patients with TB from their nearest health centers to the operational district referral hospital was supplied. The number of patients with TB who attended HIV counseling and testing services offered by dispatched counselors was reported monthly by the operational district TB medical supervisors. On average, only 10.3 patients with TB (range 0-21) per month in all four operational districts received HIV counseling and testing services by dispatched counselors in 2005.

To increase the number of patients with TB who receive HIV counseling and testing services, we changed the strategy in 2006. In place of providing the HIV counseling and testing service at operational district referral hospitals by dispatched counselors as described above, we started to offer HIV counseling and testing services provided by TB/HIV coordinators in the TB ward of each referral hospital and health center. We called this activity ‘TB/HIV coordinator activity’. Four TB staff members working in the TB wards of the operational referral hospitals were appointed as TB/HIV coordinators, one from each operational district, and they were trained to act as counselors. We implemented a simplified structure enabling TB/HIV coordinators to provide not only TB diagnosis and treatment at an operational district referral hospital, but also to visit health centers in their operational district to offer HIV testing and counseling services for patients in the TB ward. At the outset of this program, we conducted interview surveys at each public health facility. The purpose of this study was to identify problems with the present TB/HIV collaborative activities in Phnom Penh and to investigate ways to further improve the TB/HIV program on the basis of the results.

II. Methods

In-depth individual, semi-structured interviews were conducted with 18 TB staff members working in the TB wards of 17 health centers and a municipal referral hospital (one from each health facility) in Phnom Penh. Operational district referral hospitals were excluded because TB/HIV coordinators are already routinely working there. The TB staff members were encouraged to answer freely on topics, such as:

a) Encouraging TB patients to undergo an HIV test
b) The role of the TB/HIV coordinator
c) TB treatment for patients co-infected with TB/HIV
d) Collaboration with the HIV services
e) TB/HIV education

The interviews were conducted from April through November 2006 at health centers and a referral hospital. The protocol of this survey was discussed and approved by the Ethics Committee of the Research Institute of Tuberculosis, Japan. We obtained verbal consent from each TB staff member. The collected qualitative data were organized by the KJ method. Each sentence from the interview was recorded and written on a small piece of paper. Sentences with almost the same meaning were grouped by content with a specific code, and the relationship between each group of sentences was investigated and structured by the researcher.

III. Results of the interview survey

Encouraging patients with TB to undergo HIV testing

TB staff members encouraged their patients to receive an HIV test on the occasion of DOTS. They felt that most of the patients understood the concerns about HIV, and it was easy to obtain their consent to undergo the test. However, they encountered difficulty when dealing with younger (early teens) or older patients, who often refused HIV testing. The TB staff thought that this was because the young patients...
(early teens) had never had sexual intercourse and the older patients had not had sexual intercourse for a long time and were therefore not at risk for HIV infection. In addition, some TB staff members lacked confidence in discussing HIV issues because they did not know enough about HIV/AIDS.

Role of the TB/HIV coordinator

TB/HIV coordinators visited health centers about twice a month for HIV counseling and testing. TB staff members made contact with the TB/HIV coordinator by mobile phone when new patients with TB were registered. Patients with TB could receive HIV counseling and testing services in the TB ward of the health center, but only two TB staff members answered that the TB/HIV coordinator engaged in all processes of HIV testing and counseling (giving counseling before and after the test and taking blood for HIV testing). Instead, the TB staff members at each health center usually gave the pre-test information and collected the blood specimens rather than the TB/HIV coordinators because it was sometimes difficult for the patients to make appointments with the TB/HIV coordinators. At nine health centers, the TB staff members also gave out the post-test information if the result was negative. The post-test counseling for patients who tested positive for HIV was given only by trained TB/HIV coordinators. All TB staff members answered that the relationship between the TB/HIV coordinator and the TB staff was good, and they felt the number of TB patients who received HIV testing had increased after this program was implemented.

TB treatment for patients co-infected with TB/HIV

All of the TB staff members could state the correct regimen for TB treatment for those patients co-infected with TB/HIV. Most of them said that they never observed serious side effects of TB treatment among patients co-infected with TB/HIV. However, two noted that they felt patients co-infected with TB/HIV seemed to suffer more serious side effects; and two other staff members noted that they had experienced a need to reduce the dose of the antitubercular agents because of the side effects.

Co-trimoxazole was prescribed in the TB wards (12 health centers) or by HIV services, such as, home-based care teams or ART clinics (four health centers), to prevent opportunistic infections. The staff members of two health centers were unaware of the use of co-trimoxazole preventive therapy.

Collaboration with the HIV services

Ten health centers with home-based care team services and one health center without a home-based care team service (but a relationship with the home-based care team outside the health center) stated that they referred patients with TB whose HIV results were positive to ART clinics through the home-based care team. Three stated that they referred such patients to ART clinics through the TB/HIV coordinator. One health center responded by stating that they simply passed on the information about an ART clinic to the patient. Two confided that they did not know what to do.

All of the TB staff members stated that they had never shared information about the treatment of patients with TB/HIV with the ART clinic. Usually, they received information about treatment from the home-based care team or patients, but the latter could not often explain what kind of treatment they were receiving. There were several self-help groups organized by people living with HIV in the community where the health center was located. However, the TB staff members did not know about their activities in detail; and there was no close collaboration between them.

TB/HIV education

TB staff members said that patients with TB were well informed about HIV through the mass media. TB staff members provided education related to TB to the patients, but this did not include issues associated with TB/HIV co-infection. They educated the patients with TB individually at consultation; only a few health centers conducted group education or education in the community.

On the basis of the results of the interviews, the flow of TB/HIV-related activities, in which the TB/HIV coordinators and TB staff of each health facility were engaged, and the detected problems are shown in Table 1.

IV. Discussion

The era of ART has arrived, and patients with TB
Table 1 Problems detected in the TB/HIV coordinator program

<table>
<thead>
<tr>
<th>Flow of HIV counseling and testing offered by TB/HIV coordinator</th>
<th>Problems detected</th>
</tr>
</thead>
<tbody>
<tr>
<td>TB staff members encouraged patients with TB to receive HIV test on the occasion of DOTTS</td>
<td>*Absence of TB/HIV-related component in TB or HIV education for general population</td>
</tr>
<tr>
<td>TB staff members obtained consent for HIV testing from patients with TB</td>
<td>*TB staff members lack confidence in talking about HIV issues because they did not know enough about HIV/AIDS</td>
</tr>
<tr>
<td>TB staff members made contact with TB/HIV coordinator by mobile phone</td>
<td>*It is especially difficult for TB staff members to discuss HIV testing with elderly or young patients</td>
</tr>
<tr>
<td>HIV counseling and testing by TB/HIV counselor</td>
<td>*Elderly and young people do not want to undergo HIV test</td>
</tr>
<tr>
<td>(HIV+)</td>
<td></td>
</tr>
<tr>
<td>Refer to ART clinic (through HCT or TB/HIV coordinator)</td>
<td>*TB staff members sometimes needed to give pretest and posttest information to patients with TB who have negative HIV results</td>
</tr>
<tr>
<td>Prescribe co-trimoxazole (at TB ward or ART clinic)</td>
<td></td>
</tr>
<tr>
<td>Treat TB</td>
<td>*There is no formal referral flow between TB and HIV services</td>
</tr>
<tr>
<td></td>
<td>*It is especially difficult for health centers without HCT to refer patients with TB to an HIV service directly from the TB ward</td>
</tr>
<tr>
<td></td>
<td>*Some TB staff feel that patients co-infected with TB/HIV suffer more serious side effects</td>
</tr>
<tr>
<td>TB staff members record TB/HIV issues in TB registry book</td>
<td>*It is difficult for TB staff members to know what kind of HIV treatment and care the patients with TB/HIV are receiving</td>
</tr>
<tr>
<td></td>
<td>*There is no formal structure to share information about treatment of patients with TB/HIV between TB and HIV services (TB staff members usually ask the patients about their treatment)</td>
</tr>
</tbody>
</table>

TB=tuberculosis; HIV=human immunodeficiency virus; IEC=information, education, communication; ART=antiretroviral therapy; HCT=home-based care team; DOTTS=directly observed treatment, short course
need specific care and treatment as early as possible if they also have HIV. Historically, it has been common practice to refer patients with TB to an HIV testing facility. However, uptake of HIV testing that relies on this ‘referral approach’ is very low. The World Health Organization Western Pacific Region Office (WPRO), to which Cambodia belongs, recommends that HIV testing should be made available to patients with TB on-site to increase access and uptake. There are also several surveys that support this recommendation. Findings from India showed that 69% of patients with TB were willing to participate in the HIV test. Mahendradhata, et al reported that the main barrier perceived by patients was the burden of gaining access to an HIV testing center. Kanara, et al reported that making HIV testing available to patients with TB without requiring them to travel to a distant HIV testing site is likely to increase HIV testing rates.

In the beginning stage of our project, although patients with TB were given the transportation fees from their nearest health center to the operational district referral hospital where an HIV counseling and testing service was offered, only a few of these patients underwent HIV counseling and testing. Therefore, we started the new program called the TB/HIV coordinator program according to the recommendation from WPRO and the result of the survey described above. This TB/HIV coordinator program established a structure under which patients with TB could receive HIV testing and TB treatment at the same site. The World Health Organization (WHO) and Joint United Nations Programme on HIV/AIDS (UNAIDS) introduced the provider-initiated HIV testing and counseling (PITC) approach in which HIV testing and counseling should be recommended in all health facilities to patients who present in clinical settings with signs and symptoms or medical conditions that could indicate HIV infection, including TB in all epidemic settings. We considered our TB/HIV coordinator program as one type of PITC.

To improve the program, we conducted the interview survey. One of the problems we identified is that even though in practice the TB staff members explained the purpose of HIV testing to patients with TB to obtain their consent, some of them answered that they lacked confidence to talk about HIV. Additionally, they believed that younger people are not at risk for HIV transmission, despite the fact that young people are generally considered a vulnerable group for HIV transmission. These findings indicate that the TB staff members may have insufficient knowledge on HIV/AIDS. At first, we tried to persuade the TB staff and TB/HIV coordinators that only the TB/HIV coordinator could give pre-test and post-test counseling. However, they said that this was impractical.

In response to this result of the interview survey, we proposed various solutions, one of which is that TB staff members be trained in giving pre-test and post-test information. A second solution is to develop Information, Education, and Communication (IEC) materials about TB/HIV co-infection. IEC materials on either TB or HIV alone are very common in Cambodia, but this is not the case for TB/HIV co-infection. It might be easier for TB staff members to use these IEC materials when they give pre-test and post-test information. And TB/HIV IEC materials might be helpful also for the public when they learn about TB/HIV co-infection. If people in general knew more about TB/HIV co-infection, it could also be easier for TB staff to explain about HIV counseling and testing to TB patients.

Another problem detected was the weak collaboration between the TB and HIV services. Establishment of a formal collaboration structure that specifies how the TB and HIV staff should communicate, and how and where patients co-infected with TB and HIV should be referred to HIV services or TB services, is needed for those dealing with TB and HIV. At the very least, it is important to provide opportunities for all stakeholders to get together to discuss their problems. However, meetings are usually held among, but not between, the TB and HIV staff.

The TB/HIV coordinator also can be the key person to give advice to TB staff regarding how to communicate pre-test and post-test information and to link the TB and HIV services by supervising the entire TB/HIV program.

After these investigations, we decided to organize the following additional activities:

1. Training TB staff members to provide information before and after HIV testing
2. Monthly operational district TB/HIV stakeholder meetings and quarterly municipal TB/HIV stake-
3. Development of IEC materials on TB/HIV co-infection
4. Encouraging the TB/HIV coordinators to supervise all TB/HIV activities in their operational districts.

We conducted this interview survey at the beginning stage of our new activity and had not evaluated the effectiveness of the program. We need to establish whether more TB patients undergo HIV counseling and testing service and more TB/HIV co-infected patients receive appropriate TB and HIV services after this comprehensive TB/HIV collaboration activity is implemented.

V. Conclusion

We implemented HIV counseling and testing by TB/HIV coordinators in the TB wards of health facilities and conducted an interview survey to improve the program. We identified such problems as lack of confidence among TB staff members when explaining HIV testing and weak collaboration between TB and HIV services. To resolve these problems and make the program more effective and comprehensive, training for the TB staff, regular TB/HIV stakeholder meetings, development of IEC materials, and encouragement of TB/HIV coordinators to supervise all TB/HIV activities in their operational districts are needed.

References

6) WHO, CDC. A revised framework to address TB-HIV CO-INFECTION in the Western Pacific Region 2008
カンボジア・プノンペン市における
結核/HIV 重複感染対策活動の導入

剣 陽子1)、2)、Khun Kim Eam3)、Mao Tan Eang3)、上原里程2)、中村好一2)、
村上邦仁子1)、杉山達朗1)、山田紀男1)、石川信克1)

1) 結核研究所、2) 自治医科大学地域医療学センター公衆衛生学部門、
3) カンボジア国立結核・ハンセン病対策センター

要 旨

背景
カンボジアでは、結核/HIV 重複感染対策が重要視されている。特に首都プノンペン市は結核患者中の
HIV 有病率が国内で最も高く、国家結核対策プログラムはバイロット地域の一つとして結核/HIV 対策活
動を導入した。

活動
2005年は各保健行政区病院（4ヶ所）に月に1、2回カウンセラーを派遣して結核患者向けの HIV カウン
セリングと検査を行うようにし、患者へ交通費を支給したが、このサービスを利用した結核患者は月平均
10.3人（0-21人）に過ぎなかった。そこで、この活動にかえて2006年1月より、各保健行政区から1人ず
つ選出した結核スタッフを結核/HIVコーディネーターに任命して、HIV カウンセリングに関するトレー
ニングを受けてもらい、彼らによる公的医療機関の結核外来・病棟での HIV カウンセリングと検査活動を
開始した。その後、同年4月から11月に本活動と同市における結核/HIV活動全体の現段階での問題点
を把握するために、市内18の公的医療機関で働く結核/HIVコーディネーター以外の一般結核スタッフ
を対象として半構造化面接調査を行い、この結果から、活動の修正すべき点や新たに導入すべき活動を考
察した。

結果
結核スタッフたちはDOTSの機会を用いて結核患者に結核/HIVコーディネーターによるHIV検査を
受けるように促していたが、一部の結核スタッフは自分たちのHIVに対する知識が不十分と感じており、
患者にHIVテストに関する説明をすることに不安を抱いていた。HIV陽性の結果がでた者をHIV治療の
場へ紹介する確立されたシステムはなく、すべての結核スタッフは重複感染患者のHIV治療に関して
HIVクリニックと情報共有する機会がないと答えていた。

考察
結核/HIVコーディネーターが結核治療と同じ場で、結核患者にHIVカウンセリングと検査を行うサー
ビスを開始したが、現場の結核スタッフがHIVテストに関する説明をすることに自信を持っていなかった。
結核エイズ両サービス間の連携の不足と言った問題点も浮かび上がった。これらを解決するために、結核
スタッフへのトレーニングや患者向け教育資料の開発、結核/HIVサービスに関わる者たちが集まる定
期的なミーティングの開催、結核/HIVコーディネーターに各保健行政区における結核/HIV活動を監督
する任務を与える等のさらなる活動の付加が必要と考え、導入にとどまった。

キーワード：結核/HIV 重複感染、結核、HIV/AIDS、カンボジア、HIV 抗体検査とカウンセリング