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Abstracts for Day 1 (2nd August 2007)



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WS1-1

TB/HIV COLLABORATIVE ACTIVITIES IN CAMBODIA:

PROGRESS AND CHALLENGES

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Background/Introduction

Cambodia is ranked among the 22 high TB burden countries of the world. The WHO-estimated incidence is 226 /100,000 population for smear-positive TB cases and 506/100,000 population for all cases. WHO estimates that incidence is declining at a rate of 1% per year. The number of people living with HIV is estimated at 130,000 (UNAIDS report 2006). In the opportunistic infection and ARV centers there are 21,000 registered people living with HIV/AIDS of which 16,374 clients were on ARV (June 2006). The declining trend of the TB epidemic can be risked because of the TB/HIV co infection. The HIV prevalence among TB patients (all forms) is estimated at 10% (National HIV Sero-Prevalence Survey Amongst TB Patients, 2005). TB/HIV collaborative activities have started in 2002, after the endorsement of the National TB/HIV Strategic Framework by both national programs. The objective of this presentation is to discuss the achievements and challenges for the implementation of the TB/HIV collaborative activities in Cambodia.

Progress

Coordination of activities between TB programme and HIV/AIDS programme: The TB and HIV programmes have met to develop standard operating procedures. Locations where TB/HIV collaboration has been successful generally have a local TB/HIV coordinator either at the provincial level, the OD level, or both.

Access to HIV testing: HIV testing of TB patients is currently available, but with different access rates. In Takeo and Kampot, testing at referral hospitals where the VCCT is located within walking distance of the TB clinic ranges from 30%-100% with an average of 50%. However, HIV testing at the outlying health centers averaged 7% (range 0%-33%). The pilot projects, active since October 2003, demonstrate similar findings. **Monitoring and Evaluation:** Newly modified TB registers are now capturing information about HIV infection, including referral to VCCT, arrival at VCCT, and test results. HIV reporting system should be modified to include the TB data. **Isoniazid Preventive Therapy:** Isoniazid preventive therapy has only been implemented in two areas, Battambang province under the support of FHI/Gorgas, and Phnom Penh with JICA support. In Battambang, 176/3327 (5.3%) HIV-infected persons screened for IPT eligibility were started on IPT. This intervention did enhance screening for active TB disease, as 710 (21%) cases were found.

Conclusions

Given the high burden of HIV among TB patients and TB among HIV-infected persons, and the high mortality rate of TB/HIV patients, successful TB/HIV collaboration is essential. In the area of TB/HIV collaboration in Cambodia, there are examples of success and areas that need improvement. The political commitment has been critical for initiating the collaboration between programs, and the support from technical and financial partners has facilitated the implementation of the collaborative activities. NTP and NAP are in the process of addressing common challenges, such as the 100% HIV test coverage of TB patients, and the upgrading of the information systems for the correct monitoring and evaluation of the interventions.

WS1-2

PROGRESS OF TUBERCULOSIS CONTROL IN CHINA

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General information

China has 31 provinces (autonomous regions, municipalities), 343 prefectures and 2855 counties, and with 1.3 billion populations in the whole country. The public health system consists of the Centers for Disease Control and Prevention at each level, the Ministry of Health and the Health bureaus at each level compose the administrative system. The CDC is under the lead of Health Bureau at the same level.

TB Epidemic in China

China is one of the 22 high TB burden countries in the world. WHO estimated that, in 2003, 1.4 million new active TB cases develop in China, of which 600,000 were the highly infectious, smear-positive pulmonary disease. This means China-with 17% of the global TB burden-ranks second in the world in the number of TB cases, behind India. In 2000, China carried out 4th national TB prevalence survey. Results of the survey showed that there were 4.5 million prevalent active TB cases and 1.5 million smear-positive pulmonary TB cases in the country. With 75% of the cases occurring in the persons between the ages 15-59, the disease primarily afflicts persons in the most productive years of their lives. Men are twice as likely to have TB than women. The prevalence of TB in the poorer rural areas was nearly twice that in urban areas; the prevalence of disease in the central-western provinces was also nearly twice that eastern provinces.

Actions and Measures to Enhance Nationwide TB Control

1. National TB prevention and Control Plan (2001-2010)

In 2001 the State Council issued the "National TB Prevention and Control Plan (2001-2010)". It sets a comprehensive strategy for implementing the DOTS strategy recommended by WHO. And with a very clear set of targets like DOTS coverage, case finding rate and cure rates. Those targets were in line of the global TB control targets.

The Plan includes following guiding principles: governments take the lead, collaboration among multi-sectors and societal involvement; prioritized support for western part of country and poverty population; linking up prevention and treatment; fully implementation of the DOTS strategy; implementation of free diagnosis and treatment policy.

2. Political commitments

In March, 2004, Vice-Minister of Health Wang Longde attended the second Stop TB partner's Forum in New Delhi, India, and made a commitment on behalf of the governments to achieve the 2005 global targets for tuberculosis control. In June, 2004, the State Council held a video-teleconference with provincial Vice-Governors to discuss steps to accelerate efforts to control tuberculosis. The Ministry identified 12 provinces with more than 85% of the "missing" cases needed to reach the 70% targets for case finding in China and sent monitoring teams to these provinces to identify and solve existing problems. In December, 2004, Vice-Minister Wang Longde and Shigeru Omi, WHO Regional Director of the Pacific, co-chaired a high-level tuberculosis meeting in China. Governmental leaders from 12 provinces participated, including the Vice-Governors from 8 provinces.

3. Financial input

Central government has increased funding for TB control 4.8 million USD in 2001 to 36 million USD in 2005 and contributed to 26% of the total funding available for the National TB Control Programme in 2005. And the provincial, prefecture and county governments increased funding by 4.5, 4.5 and 3.2 times during this period.

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At the same time, TB control has been supported by several bilateral and multilateral assistance projects such as loan funding from the World Bank, two grant projects from the Global Fund, other grants from Japanese government, the Damien Foundation Belgium, and the Canadian International Development Agency.

The total available funding including domestic and external funding increased 4.8 times during 2001 to 2005.

4. Established Internet-based Communicable Disease Reporting System, including TB

In January 2004, the internet-based reporting system was launched nationwide for 37 notifiable communicable diseases and public health emergency events including TB. This system addressed the delays and incomplete reporting of communicable diseases, which were most evident during the SARS epidemic, when governmental authorities could not quickly assess the extent of the epidemic. At the end of 2005, 93% of health facilities at and above the county level and 66% of township-level health facilities were reporting the country's 37 notifiable diseases through this system. The mean length of time to report from a county-level health facility to the central level has been reduced from 29 days to 1 day.

With this new internet-based reporting system, individuals involved in tuberculosis control can rapidly identify cases of tuberculosis-both confirmed and suspected-in Chain's cast hospital system for the first time. This information is being used to trace patients with tuberculosis and ensure their proper diagnosis and treatment.

5. Strengthen collaboration between hospitals and TB dispensaries - public-public mix (PPM) DOTS

The implementation of internet-based communicable diseases reporting system is a very good entry point to strength hospitals /TB dispensary cooperation especially in the areas of TB cases reporting, referring of hospitals and tracing the patients by TB staff.

In 2004, 447777 suspected or confirmed cases of tuberculosis were reported from hospitals. This number increased to 686742 in 2005 as more hospitals implemented this system; 64% and 71% of these patients reported from hospitals in 2004 and 2005 were successfully followed up. On the basis of preliminary analysis, 25% of all cases of tuberculosis in 2005 were initially reported from hospitals via the internet.

6. Enhance human resource development

During the period of 2001 to 2005, the number of TB staff at all levels increased from 19366 to 24046, it increased 24%.

According to needs of the work, Ministry of Health developed TB control training plan. Categorized guide was provided hierarchically to TB staff at different local levels and targeted training courses on TB control were held to improve the capacity of TB staff. Training was especially intensified for doctors in general hospitals, community doctors and doctors at township and village levels to improve the case-detection and standardize the case treatment.

7. Intensified health promotion

In order to carry out TB control health promotion activities effectively, MOH organized Chinese and international experts to develop the "Health Promotion Strategy on TB Control in China" requesting ongoing year-round health promotion activities and issued the key information of TB control. With the support of the World Bank and DFID the Disease Control Division of MOH, FLO, and China CDC developed a toolkit for TB control health education and promotion, which consists of a set of resource materials for media, training and health promotion activities. Issued in early 2005 to the provincial, prefecture, county TB control institutions the toolkit has been awarded in the *Stockholm Challenge* "for the excellence in the use of information technology". The materials have been applied in health promotion activities at all levels.

For the advocacy to leaders at all levels, in 2004 and 2005 during the CPC a brochure of TB control policies and basic knowledge was distributed to each delegate with a CD-rom enclosed. Every World TB Day colorful health promotion activities were carried out everywhere.

8. Incentive mechanism

Incentives have been used to promote TB case detection and case management since 1992 when the DOTS programme was first implemented in China. They have been considered as a contributor for DOTS and were formalized as government policy since 2001. Incentives are currently provided by the government in all areas implementing DOTS, including referring fee (If the doctors refer the TB suspects who diagnosed as active PTB, the doctors will gain the bounty 20 yuan RMB) and treatment management fee (If the doctors carry out DOT for TB cases who completed treatment, the doctors will gain the bounty 60-80 yuan RMB).

Achievements

The Ministry of Health organized Mid-term evaluation of NTP in 2006. The result of the evaluation shows that China achieved the mid-term target of "National TB Control Program (2001-2010)", that is 2 million infectious TB cases were cured by the end of 2005.

By the end of 2005, China has achieved the three global targets for TB control set by WHO. DOTS coverage rate achieved 100%, case-detection rate achieved 79% and cure rate of new smear positive achieved 91%. The case-detection rate still maintained 79% in 2006.

Key Challenges of TB Control and Prevention confronting in China

Although the effective modern TB control strategies explored in China's past efforts of TB control have made significant achievement in the realization of the global TB control target and NTP target, we cannot ignore the great challenge and difficulty to achieve the Millennium Development Goals by 2015, i.e. 50% reduction in TB prevalence and death rates.

The challenges including:

- Migrants, MDR-TB, TB/HIV
- Quality of DOTS need to be improved
- Mechanism to ensure sustainability
- Inadequate human resource
- Lack of resources to tackle new challenges

Action plan for next step

TB control implementation plan 2006-2010

The 2006-2010 implementation plan for the NTP is finalized and issued in 2005. The contents of the plan including:

- Maintain DOTS implementation at 100%
- Integrate issues like TB control among migrants, MDR-TB and TB/HIV into NTP
- Mobilize TB fund from multiple sources to ensure sufficient financial input for TB control
- Strengthen human resource development, mobilize more health workers into TB control
- Improve quality of DOTS implementation

The objectives of the Stop TB Plan 2006-2010 are two million infectious TB patients will be detected and treated from 2006-2010, smear-positive TB prevalence and TB mortality will be reduced by 50% compared to 1990 level by 2010.

For case detection, the core target is case detection of new smear positive cases will reach at least 70%. Main strategies include:

- Clear TB control targets will be disseminated to provincial and lower governmental level
- Maintain DOTS implementation at 100%
- Strengthen the reporting, referral and tracing of TB suspects and cases accessing general hospital system



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- Fully implement and continue to improve the EQA system for all labs carrying out TB microscopy, including township microscopy site

For case management, the core target is cure rate of new smear-positive TB patients will be maintain at or above 85%. Main strategies include:

- Apply DOT for smear positive TB cases
- Improve quality TB drug management system
- Gradually expand the usage of FDC TB drugs

For equitable Access to TB Care, the core targets by 2010 are 100% of medical institutions will involve in TB control, community awareness of TB will reach 80%, 90% of migrant TB patients in the project areas will receive treatment. Main strategies include:

- Expand TB control network to include TB control institution, medical institution and community health service center
- Gradually implement hospital-based DOTS
- Increase health promotion on TB
- Integrate the service for TB patients among floating population into NTP

For adapt DOT to MDR-TB & TB-HIV, the core targets are 90% of multi-drug resistant TB patients identified in the project areas will receive treatment, 80% treatment rate to identified HIV positive TB patients in project areas. Main strategies include:

- Develop frameworks for tackling MDR-TB & TB-HIV
- Develop implementation plans based on pilot experience
- Gradually expand programs on MDR-TB and TB-HIV

The Country-specific Expected Results in the Stop TB Plan 2006-2010 are as follows:

- Directly Observed Treatment, short-course (DOTS) coverage rate will be maintained at 100% (using the county (district) as the unit)
- By 2010, 90% of village doctors will receive training on TB
- Carry out National TB Prevalence Survey in 2010

China, together with international community, will make our contribution to control the spread of TB all over the world!

Keywords: TB, Progress, NTP

WS1-4

THE NATIONAL TUBERCULOSIS CONTROL PROGRAM OF THE PHILIPPINES

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The Philippines, through its National TB Program (NTP), adopted the Directly-Observed Treatment Shortcourse chemotherapy (D.O.T.S.) in 1996 and since then, rapid expansion occurred. Though Treatment Success Rates were over 85%, it still demanded a more proactive planning, capacity building and monitoring to ensure that the D.O.T.S. strategy of the NTP becomes an integral part of the decentralized health network. Likewise, Case Detection Rates (CDR) were then below the accepted standard of 70%; thus, there was the impending need to engage a large health care sector of the country, the private sector, into the health systems of the NTP.

NTP has strong political commitment, especially at the national (central) level and is highlighted as one of the topmost priorities of the Department of Health. D.O.T.S.'s successful expansion has been largely due to the financial support given by the Government, such as drugs and laboratory supplies, with the active participation

of various international and local organizations. At the local level, the political will, need to be equally strengthened, to ensure that the NTP is being sustained.

The Philippine Coalition Against TB (PhilCAT) is the NTP's ally in embarking the Public-Private Mix DOTS (PPMD), which is a core component of the current NTP. Engaging the private sector, as a major caretaker of the D.O.T.S. strategy, enables the NTP to reach the 70% CDR and even more. This also paved the way for a more harmonious working relationship between these two large healthcare providers. TB activities of the other health-related sectors, such as the education and labor/employment services, are now synchronized with the NTP, where DOTS is adopted as the overarching framework for TB control. This is embodied through an Executive Order, known as the Comprehensive and Unified Policy (C.U.P.) of TB Control.

The Program is also implementing other initiatives to allow us to reach our MDGs and to sustain whatever we have gained. DOTS for high-risk groups, such as children, are now underway for a nationwide implementation, in partnership with experts and key agencies. Multi-drug resistant TB (MDRTB), that started out as a pilot project in one of our PPMD units, is now for scale-up and is viewed as a template for other countries. Though HIV is prevalently low in the Philippines, the NTP undertakes a TB-HIV collaboration to address this emerging public health threat.

Now that D.O.T.S. is all over the country, the aim of NTP is to go even beyond its current capture. This largely entails the sustenance of quality D.O.T.S. implementation and undertaking this in the context of health sector reforms and globalization. DOTS and DOTS beyond is our way forward.

WS1-5

TUBERCULOSIS SITUATION IN THAILAND

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National Tuberculosis Control (NTP) in Thailand was established in 1950 aiming to control tuberculosis which was serious health problem at that time. Four prevalence surveys were conducted and the last one was in 2006 (Data was not published yet). Thailand was one the country in the world which has a high burden of tuberculosis cases. Tuberculosis care was implemented to local health care services and short course chemotherapy was used as a standard treatment more than two decades ago. The tuberculosis situation in Thailand improved gradually until the epidemic of HIV infection in 1989. In epicenter of HIV infection, co-infection of both diseases was reached the peak of 50%. Increasing number of tuberculosis cases, defaulter rate and mortality rate after treatment were as an impact of HIV infection epidemic. Situation of tuberculosis in 2005: prevalence and incidence of all forms of tuberculosis are 204 and 142 per 100,000 populations respectively. Incidence of smear positive is 63 per 100,000 populations. Tuberculosis mortality is 19 per 100,000 populations. DOTS coverage is nearly 100 per cent. Case detection rate is 61 and 73 per cent for all forms of tuberculosis and smear positive cases. Outcome of treatment: success rate was between 62-77 per cent in 1997-2004 which is still lower than target of 85 per cent. Low success rate is critical problem in NTP. HIV and TB co-infection was found in 7.5 per cent of new tuberculosis cases in general. In 2002, Thai Government has reformed health services by implementing National Health Security Scheme (30 Baht Scheme) and include tuberculosis care into basic

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health services. Tuberculosis control program was affected by the health reform until this year a new program will be implemented to improve the deteriorated situation. Disease managed program for tuberculosis will be implemented in next few months by providing special budget per patient to encourage treatment and follow up activities.

WS1-6

VIETNAM TUBERCULOSIS CONTROL PROGRAM

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Vietnam Tuberculosis Control Program has a long standing tradition of 20-year implementation.

Vietnam has exceeded WHO targets for 9 consecutive years, and yet the overall case notification rate has remained stable. The success of the program in treating patients and cutting transmission is threatened by the spread of HIV infection, insufficient access to high-quality TB care for poor and vulnerable populations, poor TB management practices in the growing private sector and accumulated MDR-TB cases. Some combination of these factors is responsible for the apparent increase in incidence among young adults, especially men.

Achievement (2006): DOTS coverage rate is 99.9 % of population, notification rate (new SS(+)) 67/100 000 population and success rate 91.4 %.

To answer the question why the TB situation of Vietnam has not yet decreased, we are carrying out TB prevalence survey and rough results can be expected at the end of 2007.

The 2007–2011 master plan has addressed these risks with difficulties in new activities such as TB/HIV, MDR TB, PPM DOTS and TB control in remote mountainous areas and closed setting. All these new component need to be clearly instructed in national guidelines and training materials for staff at all level in order to implement the activities with high quality. Moreover, health system reform at district level happened in 2 recent year causes the lack of trained staff for TB control in this level. Therefore, NTP has to find urgent solutions to deal with human resource development (HRD) for TB control. HRD is one of the most important components of Vietnam NTP in this year 2007.

Keyword: NTP, TB/HIV, PPM, MDR TB, HRD

WS1-7

NATIONAL TB CONTROL PROGRAMME – HONG KONG

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Hong Kong has been classified by WHO as a place of intermediate TB burden with good health infrastructure in the Western Pacific Region. The TB notification rate in Hong Kong has shown an overall downward trend in the past 50 years. Despite a relatively “stagnant” trend in the recent decade, the annual notification rate dropped to below 100 per 100,000 for the first time in 2002. In 2006, a total of 5,856 cases of TB were notified, corresponding to a crude notification rate of 85.4 per 100,000 population (provisional figures). About one third of the cases were smear-positive.

The stagnant trend as observed in the past decade may be attributable to a number of factors, including ageing of the population, ageing of the TB epidemic, and population movement. Unlinked anonymous screening for HIV among TB patients attending government chest clinics showed a relatively low rate of 0.6% (2006 figure). TB mortality rate has also

declined significantly in the past several decades. TB death rate in 2006 was 4.2 per 100,000 (provisional figures).

The public TB control programme in Hong Kong is fully funded by the Government. The bulk of outpatient ambulatory care is delivered by the TB & Chest Service of the Department of Health (DH) through its 18 chest clinics, which are free of charge, well distributed in the territory, and easily accessible to citizens. Both first- and second-line anti-TB drugs are provided free of charge. Hospital beds for TB are provided mainly in 5 public chest hospitals under the Hospital Authority (HA). Citizens also have the freedom of choice to seek services from the private sector for which they have to pay.

TB surveillance is done through a statutory notification system. Data from the TB Reference Laboratory and death certificates are regularly matched with the TB notification registry to trace back unreported cases.

Directly observed treatment (DOT) has been introduced in the TB & Chest Service since the 1970's on an ambulatory basis. Essentially there is 100% DOTS coverage. In addition, DOTS-PLUS is in place with widely available susceptibility testing for, and access to, second-line drugs when their use is indicated in drug resistant cases.

The TB Reference Laboratory of the DH is one of the Supranational Reference Laboratories (formally designated by WHO in February 2006) and has participated actively in the WHO/ IUATLD Global Project on Anti-Tuberculosis Drug Resistance Surveillance. The rate of multidrug-resistant TB (MDR-TB) is maintained at a relatively low level of around 1% among bacteriologically-positive patients. The corresponding rate of extensively drug resistant TB (XDR-TB) is around 0.1%.

In addition, other public health functions are regularly carried out, viz. contact tracing, defaulter tracing, and neonatal BCG vaccination programme with a coverage rate of over 99%. Currently, screening and treatment of latent TB infection are mainly targeted at certain risk groups, including the HIV-infected, silicotic patients and close contacts of smear-positive index cases. Ongoing evaluations are being made to assess the efficacies of such interventions.

Health promotion messages are disseminated to the whole community as well as defined target groups through multiple channels in support of the TB control programme. Professional guidelines are also available and updated regularly.

Treatment outcomes are monitored regularly by the use of “programme forms”. The DOTS case detection rate was 53% for new smear-positive cases in the year 2005 according to WHO estimation. Treatment success rate at 1 year (counting from date of starting treatment) for the 2004 cohort of new smear-positive cases was 80.4%. Some patients with underlying medical conditions or drug intolerance require treatment beyond one year. The overall treatment success rate at 2 years was significantly higher at around 85%.

Research and service evaluation studies are carried out actively on various aspects of TB. These are important for continuous enhancement of TB control activities.

The baseline TB notification and death rates in 1990 are 114.1 and 6.7 per 100,000 respectively. In order to achieve the international targets of halving the TB prevalence and death rates by 2015, much more effort has yet to be made. Vigilant control measures and active researches need to be carried out continuously with the collaboration of all sectors as well as the international communities.

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WS1-8

TB CONTROL PROGRAMME IN JAPAN

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Epidemiology Incidence of all types of TB in 2005 was 22.2/ 100,000. TB patients over 65 years comprise 55% of all patients. Prognosis of the age TB patients is poor. There are big gap of incidence among areas in Japan. In general urbanized area has high incidence due to socially depressed population such as homeless, high incidence in young population, foreign TB patients etc. Delay of case finding is deteriorating because of worsening patient's delay especially in male of productive age. Delay of case finding resulted in outbreaks. A total of 183 outbreak cases were reported between 2000 and 2004. 22% of the cases happen in school and 22% happened in hospitals and geriatric facilities. According to TB hospitals network, MDR TB was detected in 0.7% of newly diagnosed patients, while that of retreated cases was 9.8%.

TB Control Programme TB Prevention Law was integrated into Infectious Disease Law in 2007, however basic policy on NTP was not changed. BCG is given to baby between 3 and 6 month old with multi puncture method. MMR to all people was quitted, while contact survey is expected to be strengthened. Application of Quantiferon in contact survey is getting popular in many health centers. Japanese DOTS strategy, which is selective DOTS become standard procedure for case holding in 79% of health center in 2005. Success rate in DOTS area was a little less than global target (81%), because of the high "died" cases in aged patient.

WS1-9

NATIONAL TB CONTROL PROGRAMME OF KOREA

LEW WOJIN

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National TB control programme (NTP) was implemented in 1962 through overall network of health centres. The Gross Domestic Product (GDP) was less than 100 US\$ in 1962, which increased to more than 15 000 US\$ in 2005. The rapid socioeconomic development was one of main factors that accelerated the decrease in tuberculosis infection and morbidity in Korea.

According to the results of nationwide TB prevalence surveys being conducted from 1965 to 1995 at 5-year intervals, the annual risk of TB infection (ARTI) decreased approximately at a 7.5% of annual reduction rate to 0.5% in 1995 from 5.3% in 1965, and the prevalence of smear positive PTB decreased to 93 per 105 population in 1995 from 668 in 1965. However, Korea is expected to experience a slowing down or stagnation of TB decline in the future due to rapid increase in aging population and increase in medical conditions such as cancer and diabetes in somewhat older population. Other possible causes of stagnation of TB decline in Korea are related to the importation of foreigners mainly from high TB burden countries in Asia, and of North Korean refugees.

BCG vaccination has been done in a systematic way since 1962 along with the NTP implementation. The treatment of latent TB infection (LTBI) has been applied only to children under 6 years of age who are in close contacts with infectious TB cases, but the treatment of LTBI has been expanded to the high school students since 2007 because TB outbreaks in high school students became a big social issue recently.

NTP does not cover private sectors so that the detailed information on case-finding activities and treatment outcomes are not known yet. The pilot project of Private-public mix (PPM) just started this year on a small

scale with collaboration with some of university hospitals. NTP has a plan to make guidelines for PPM and expand the PPM programme on a wider scale on the basis of experiences being obtained from the pilot project in the near future.

The issues and challenges are how to improve the quality of reporting and treatment activities of private sector, how to increase the level of access of illegal foreign workers to medical facilities, and how to strengthen the capabilities of health workers in conducting contact investigation of TB outbreaks. Other challenge is to integrate commercial laboratories into the laboratory network of NTP and to expand quality assurance system.

WS1-11

TB IN SINGAPORE

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In this lecture, I will describe the measures implemented as part of the Singapore TB Elimination Program (STEP) and the progress of TB control in Singapore.

WS1-12

CONTROL OF TUBERCULOSIS IN AUSTRALIA

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Australia has a low burden of tuberculosis. After a progressive decline in incidence from the 1950s, the incidence rate stabilised at approximately 5 per 100,000 persons per year from the late 1980s. There has been little change since then. In 2004, there were 1076 reported cases (5.4 per 100,000 persons) [1].

The incidence rate among persons born in Australia is very low. In 2004 there were only 191 cases in people who were born in Australia. Indigenous people were over-represented among these cases (39 cases, 8.1 per 100,000) compared with non-indigenous people (152 cases, 1.0 per 100,000) [1]. The most notable feature of the descriptive epidemiology of tuberculosis in Australia is the high incidence among persons born overseas. During 2004, 82% of all cases of tuberculosis in Australia occurred in people who were born overseas (885 cases, 21.7 per 100,000). The largest number of cases were in people born in India, Vietnam, China and the Philippines [1]. This pattern reflects the sources of migration to Australia and also the incidence rate in these countries of origin.

Only 16 cases were reported as HIV positive (1.5%). However, HIV status was only reported for 34% of cases. Data on other risk factors for tuberculosis are not routinely available.

The control of tuberculosis in Australia is primarily the responsibility of states and territory governments, of which there are eight. There is some variation in practice between these jurisdictions. In New South Wales, the largest state, nearly all cases are treated using directly observed therapy. Among cases treated in Australia in 2003, outcomes were evaluated in 98% and 93.1% were reported to be cured or to have completed treatment [1]. There were only 12 deaths (1.4%) in this cohort.

In keeping with the high incidence of disease in persons who were born overseas, control of tuberculosis among migrants is a high priority in Australia. Current policy requires chest x-ray screening prior to arrival in Australia among long-term visitors and migrants and post-migration follow-up of those with evidence of past TB. Among the

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resident population of Australia, active screening for TB infection and disease is limited to contacts of cases of pulmonary tuberculosis. Although the current burden of tuberculosis in Australia is low, the latent nature of the infection and the high rates of travel between Australia and high-burden countries in our region mean that it will not be eliminated in the foreseeable future and continued vigilance and active control measures are required.

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WS2-1

EPIDEMIOLOGY OF OBSTRUCTIVE SLEEP APNOEA SYNDROME - AN ASIAN PACIFIC PERSPECTIVE

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Obstructive sleep apnoea syndrome (OSAS) is a common disorder worldwide. In major epidemiological studies conducted in Asia, the prevalence rates of OSAS in middle-aged males and females are estimated as 4.1-7.5% and 2.1-3.2% respectively in the general populations.¹⁻⁴ In contrast, the prevalence is low in the younger populations eg university student population at 0.1%⁵ and 1.5% in children aged 6-12 yrs in HK.⁶ The prevalence rates of sleep-disordered breathing (SDB) and OSAS have been estimated as 8% and 5% respectively in a study of middle aged commercial bus drivers in HK.⁷

A case-control study in HK has shown a high prevalence of obstructive SDB after ischaemic stroke (49% vs 24% in controls), with some partial spontaneous improvement of the obstructive events in the rehabilitation phase, but the patients are generally not sleepy with very poor CPAP compliance.⁸ The prevalence of OSA is very high (> 60%) in patients with end-stage renal failure on dialysis.⁹⁻¹¹ Nocturnal peritoneal dialysis may have a therapeutic edge over CAPD in OSA that is associated with renal failure as a result of better fluid clearance during sleep.¹¹

While Asian patients with OSAS are generally less obese than the Caucasian counterparts, craniofacial abnormalities such as a low hyoid bone and retro-position of the maxilla or mandible are common predisposing factors in the Chinese populations.^{12,13}

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WS2-2

PATHOGENESIS OF OBSTRUCTIVE SLEEP APNOEA

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Sleep-disordered breathing (SDB) corresponds to a continuous clinical spectrum from snoring, upper airway resistance episodes, to obstructive hypopnoeas and apnoeas according to the degree or severity of upper airway collapsibility.

Obstructive sleep apnoea-hypopnoea syndrome (OSAHS) is characterized by recurrent episodes of partial or complete upper airway obstruction during sleep. This manifests as a reduction in (hypopnoea) or complete cessation of (apnoea) airflow despite ongoing inspiratory efforts. The lack of adequate alveolar ventilation usually results in oxygen desaturation and, in cases of prolonged events, a gradual increase in PaCO₂. These events are often terminated by arousals.

The fundamental abnormality in SDB is in the anatomy and collapsibility of the upper airway. Some authors believe that SDB is entirely based on the equilibrium between forces that hold the airway open and forces that tend to collapse the airway. The magnitude of the pressures collapsing the airway can be measured, and this measurement can be inferred from the pressure required by continuous positive airway pressure to hold the airway open. This is known as pharyngeal critical pressure. Pharyngeal collapsibility may depend on the size of the upper airway (UA), shape of the UA, elastic properties and surface tension forces, peri-pharyngeal tissues and UA muscle activity. UA muscle activity is reduced during sleep leading to pharyngeal obstruction in patients exhibiting a high pharyngeal collapsibility.

Upper airway inflammation, and UA mucosal sensory receptors may also play a role in the pathophysiology of OSAHS. Studies have indicated impairment of pharyngeal sensitivity, and impairment of the pharyngeal dilator reflex.

The development of OSAHS is also influenced by obesity, male gender, craniofacial abnormalities, increased pharyngeal soft or lymphoid tissue, nasal obstruction, endocrine abnormalities and genetic factors.



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WS2-3

DIAGNOSTIC CONSIDERATION IN SLEEP APNOEA

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When children sleep, they are breathing in a more rapid phase and their tidal volumes decrease. There is decrease in overall minute ventilation and lead to an incidence of apnea in normal children, as well as in disordered sleep apnoea. It is important to recognise the signs and symptoms of sleep apnoea before the diagnosis is made. Younger or older children are more likely to have other underlying etiological factors or risk factors. Familial factors influence the risk of developing sleep apnoea. The genetic risk factors include obesity, craniofacial morphology and abnormality of ventilatory and respiratory muscle control also play an important role in development of sleep apnoea. An abnormally high prevalence of OSA without clinical symptoms has been found in overweight infants.

There are classically 3 types of sleep apnea: (1) obstructive apnea, which is the absence of airflow despite ventilatory efforts, (2) central apnea, which is the absence of airflow due to a lack of ventilatory effort, and (3) mixed apnea, which starts with the central component of no effort to breathe, followed by a lack of airflow despite the fact that the patient is trying to breathe. Alternative evaluations for polysomnography are being discussed extensively in the literature because they are expensive, hard to get, and time consuming. Therefore, overnight pulse oximetry or home audiotapes is used to diagnose sleep apnoea in children. It was a good technique, but it is not definitive because we are missing the different stages of sleep, the arousal, and the hypoventilation. The pulse oximetry study at night is not going to answer all the questions of sleep apnoea. Therefore, full polysomnography is still the gold standard of investigation test in sleep apnoeas. Another study in adults was an algorithm to stratify sleep apnea risk and sleep disorders in a clinic population, probably because there is a high risk of heart attacks in adults and so it is almost life threatening. Sleep questionnaires also being used to screen for sleep apnoea in adult and children.

WS2-4

OBSTRUCTIVE SLEEP APNOEA SYNDROME AND CARDIOVASCULAR COMPLICATIONS

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Obstructive sleep apnoea syndrome (OSAS) is a common disorder causing disabling daytime sleepiness, impaired cognition, and increased risk of traffic accidents. In addition, there are growing data linking untreated OSAS to cardiovascular consequences such as hypertension,¹ asymptomatic diastolic dysfunction,² myocardial infarct, heart failure,³ asymptomatic carotid artery disease,^{4,5} sudden death,⁶ and stroke.^{7,8} Nasal CPAP is the most effective treatment for OSAS with robust evidence in support of its efficacy in improving symptoms, cognitive function, and quality of life. Several randomized placebo-controlled studies have shown that nasal CPAP can reduce day and night systemic blood pressure in patients with OSAS.^{9,10} Other favourable effects of CPAP include reduction of sympathetic activity and hypoxic/oxidative stress,^{11,12} with improvement of vasodilator response and endothelial function.¹³ OSAS, through repeated episodes of arousals, may lead to platelet activation, which can be reduced by nasal CPAP.¹⁴ In patients who are not able to tolerate nasal CPAP, dental appliance in the form of mandibular advancement device can improve symptoms and reduce

mean 24-hr diastolic BP by 1.8 mmHg after 4 weeks of treatment.¹⁵ These data have important therapeutic implications, and compliance with nasal CPAP may reduce risk of cardiovascular complications associated with OSAS.

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THE MANAGEMENT OF SLEEP-DISORDERED BREATHING

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Sleep-disordered breathing (SDB) corresponds to a continuous clinical spectrum from snoring, upper airway resistance episodes, to obstructive hypopnoeas and apnoeas according to the degree of upper airway collapsibility.

Obstructive Sleep Apnoea (OSA), the commonest disorder, is characterized by repetitive episodes of upper airway obstruction that occur during sleep, and is associated with snoring, reduction in blood oxygen saturation and recurrent arousals in sleep. The gold-standard method of diagnosing OSA is the nocturnal polysomnography. Polysomnography must be interpreted in the context of signs and symptoms, before the diagnosis of OSA can be considered certain.

Treatment aims to improve symptoms, normalize abnormal respiratory events during sleep and to reverse specific quality of life alterations. Management of OSA starts with conservative measures that include

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weight loss, relief of nasal obstruction, and abstinence from alcohol and other sedatives, and training patients to sleep on their sides rather than supine. Drugs result in mild, if any, improvement in OSA. The lack of a consistent response combined with substantial side effects has precluded pharmacologic therapy as an option for the treatment of OSA. Surgery may be useful in patients whose obstruction is aggravated by enlarged tonsils, adenoids or nasal polyps. Oral appliances are a reasonable alternative to CPAP in mild cases.

The introduction of CPAP therapy for OSA marked a turning point in the management of this disorder. The pneumatic splint provided by CPAP is the most effective and frequently used treatment for OSA, and its efficacy in eliminating obstructive apnoeas and hypopnoeas has been well established. A recent development in CPAP therapy is the use of computerized adjustable CPAP equipment, which can vary the treatment pressure continuously during chronic home use.

Prompt treatment of patients with OSA will result in long-term cardiovascular risk reduction and savings in healthcare expenditure from the prevention of cardiovascular complications.

WS2-6

SLEEP DISORDERED BREATHING IN CHILDREN

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Sleep medicine in children is still at a very early age, where there are more literatures and studies for the adults. However, for the last few years, the children's literature is increasing. The awareness of sleep problems in children is also increasing among the medical practitioners and paediatricians. There are many risk factors for sleep disordered breathing in children. The ventilatory control of sleep in children is normally related to body composition. Therefore, the growth and the development of the pharyngeal structures are age-related. There is also a response to an increase of carbon dioxide (CO₂) and these responses change as the child grows. When children sleep, they are breathing in a more rapid phase and their tidal volumes decrease, there is decrease in overall minute ventilation. There is an incidence of apnea in normal children, as well as in disordered sleep apnea. Snoring is one of the most common sleep symptoms in children. The risk factors for sleep disordered breathing in children include airway narrowing or dysfunction, allergic- or immune-related problems, neurological deficits, muscular dystrophy, and pharmacological suppression of airway control by any medications. There are some genetic syndromes, metabolic diseases and glycogen storage diseases that create structural problems with the face leading to increase risk of developing sleep disordered breathing. Congenital anatomical deficits of the facial bones can also contribute to sleep related problems.

Obstructive sleep apnea syndrome (OSAS) in children has a peak age of preschool, or 2 to 6 years of age. There is no predominance of males or females and the sleep pattern can be normal on polysomnogram. OSAS in children is a REM-related disease. The apnoeas more numerous and were longer during later REM periods than during REM periods earlier in the night. Arousal in sleep is an important defense mechanism to prevent disordered breathing and hypoxia, and it is found that children are harder to arouse than adults. There is a poor response to moderate hypoxia, which is even worse in children. There is an increased response to hypercapnea where children tend to arouse at the termination of apnoeas. Sleep stages and daytime function are most often well preserved in children. Untreated OSAS

can result in serious morbidity such as FTT, Cor-pulmonale with heart failure, pulmonary and systemic HT, neurocognitive deficits, mental retardation and finally death. The other problem of sleep disordered breathing in children is central hypoventilation syndrome caused by various disorders. Central hypoventilation syndrome is defined as an increase in arterial CO₂ tension due to a decrease in CNS ventilatory drive. It can be primary or secondary where the accepted percentage of sleep time with PCO₂ >50mmHg should be less than 9%. Therefore, it is important to recognize the signs and symptoms before the diagnosis of sleep-disordered breathing can be made in children. The treatment of sleep disordered breathing in children should be directed to the underlying cause or disease.

WS3-1

INTERVENTIONAL BRONCHOSCOPY: WHICH TECHNIQUE FOR WHICH PATIENT

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The main indication for interventional bronchoscopy is relief of central airway obstruction. This affects the trachea, mainstem bronchi and intermediate bronchus and is most commonly caused by malignancy. Intraluminal airway obstruction caused by endobronchial tumour can be relieved by using techniques such as endobronchial Nd:YAG laser therapy, argon plasma coagulation or electrocautery which rely on thermal energy to ablate the obstructing lesion. A foreign body obstructing the airway can be removed at bronchoscopy with the aid of a wide range of specially developed accessories.

When the obstruction is caused by extraluminal compression by a mass or lymph nodes, placing of an endoprosthesis or stent across the stenotic segment will splint the airway open and maintain patency.

For the best results and outcome, patients should be evaluated and assessed for suitability to undergo intervention. Important factors include the patient's general condition, duration of obstruction, the site and length of the obstructing lesion, and state of the distal lung. Useful information can be obtained from CT scans, lung function and bronchoscopy.

The choice of procedure and instrumentation depends on the expertise of the staff, facilities and equipment available. Interventional bronchoscopists should also be aware of the high risk nature of the procedure and familiar with the relation of vascular structures with the central airway, to minimize the risk of complications such as bleeding and perforation.

Despite the relative risks, with care and caution, interventional procedures can be performed safely with good results. When successful, patients experience an immediate relief of their symptoms following relief of the obstruction. Although cure is not possible in patients with advanced malignancy, effective palliation of distressing symptoms of airway obstruction is possible with bronchoscopic intervention.

WS3-2

MEDICAL THORACOSCOPY : PATIENT SELECTION AND PRACTICAL ASPECTS

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Pleural disorders remain a significant challenge for the pulmonary physician both from a diagnostic and therapeutic viewpoint. Improvements in endoscopic video systems have allowed the

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physician to view the entire pleural cavity using rigid or semi-rigid instruments. Medical Thoracoscopy is a useful tool for pulmonologists to aid in both the diagnosis and management of pleural diseases. With the ability to visualise the pleural cavity, medical thoracoscopy allows directed biopsies to suspicious areas within the parietal pleura under local anaesthesia and sedation in an endoscopy suite. It facilitates pleural fluid collection and allows the instillation of pleural sclerosants for pleurodesis in a single procedure. It is indicated in the evaluation of pleural effusions of unknown etiology and when larger pleural tissue specimens are required for the diagnosis of malignant mesothelioma. Patient selection is important, and an absolute contraindication being the absence of a free pleural space due to the presence of dense pleural adhesions.

WS3-3

NEW TOOLS IN INTERVENTIONAL PULMONOLOGY

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Sadly, interventional pulmonology has remained as a "Brave New World" despite the quantum leaps in technology in the last 20 years. In this lecture, I will outline the history of interventional pulmonology and the state of the art today.

WS3-4

PLEUROSCOPY: EARLY MALAYSIAN EXPERIENCE

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Pleuroscopy or medical thoracoscopy using purposely-designed equipment is relatively new in Malaysia. This is an improvement to the way of our predecessors who did it using bronchoscopes via a chest tube. The first pleuroscopy service using a semi-rigid device was started in Hospital Universiti Kebangsaan Malaysia in January 2006. More and more hospitals have started the service namely hospitals in Penang, Kuala Lumpur, Kuantan, Kuala Terengganu and Kota Kinabalu. Pleuroscopy is very useful means in a chest physician's armamentarium in the management of pleural diseases. The general feeling is that the skill to perform pleuroscopy is easy to acquire as it is an extension of flexible fiberoptic bronchoscopy. The availability of the flex-rigid pleuroscope allows the skills to be learnt more easily.

The ease by which to learn the procedure, ability to visualize and perform biopsies under direct vision and relatively high success rates have encouraged more chest physicians to take up pleuroscopy. The limiting factors are patients' acceptance of the procedure, increased days of hospital stay thus increase in cost in centres where patients have to contribute to their hospital care and complications. These can be offset by the benefit of getting the right diagnosis that changes the management. Local data suggest that complication rates are low and most are mild to moderate. Most patients had none at all.

Several workshops have been organized by the Malaysian Thoracic Society in order to equip local chest physicians with the basic skills to perform the procedure. Regular meetings and workshops will be organized to enable local expertise to be developed and facilitate the sharing of experience with international experts.

WS4-1

MALAYSIAN SMOKING CESSATION PROGRAMME AND SMOKE-FREE AIR LAWS

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Malaysia is presently confronted with a serious tobacco epidemic where escalation in adult smoking rate the past 20 – 30 years is now followed by a burdensome increase in tobacco related morbidity and mortality. Although overall smoking prevalence among adults seemed to remain between 20% – 25%, the actual numbers of smokers had significantly risen due to population growth.

Sir Richard Peto in a 1994 publication, 'Mortality from Smoking in Developed Countries 1950 – 2000' predicted that a dramatic exponential increase in tobacco deaths will occur in the next 50 years unless current smokers quit. Hence, one of the most important objectives of the National Tobacco Control Programme is to increase the number of smokers that quit. This may be achieved through strategies like tobacco taxation, provision of smoking cessation services as well as legislative controls that will change social norms and public perception about tobacco use. The National Quit Smoking Programme was then established to provide comprehensive support and assistance to help smokers through skills development and by making cessation services widely available and accessible. In order to cater for over 3 million smokers nationwide, the existing 300 dedicated quit smoking clinics throughout the country are not sufficient and must continuously be improved and strengthened. It is also very essential that more innovative approaches be sourced out if the Government wants to address the smoking cessation issue effectively.

The addictive nature of tobacco had kept smokers to continue with their habit. Yet the recent National Health & Morbidity Survey showed that about 70% of smokers had attempted to quit on average, 2.1 times in the past year prior to the survey. Among factors known to promote quitting is the creation of an environment that de-glamourise and denormalises tobacco use in a community where designation of smoke-free public places is one excellent tactic.

Malaysia is a party to the world's first public health treaty i.e. the WHO Framework Convention on Tobacco Control (FCTC) where numerous aspects of tobacco control strategies made obligatory to member states. Among others are Article 8 on protection from exposure to tobacco smoke and Article 14 on demand reduction measures concerning tobacco dependence and cessation. The Ministry of Health Malaysia has already fulfilled requirements under Article 8 & 14 whilst constantly expanding legislative provisions to advance smoke-free areas and smoking cessation for the local population.

WS4-2

TOBACCO CONTROL ADVOCACY ROLE OF NGOS

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Introduction:

Smoking is the most preventable cause of death.¹ Tobacco use causes more than five million deaths a year globally. There are an estimated 1.3 billion smokers worldwide.² As smoking rate decline in the wealthy nations, the tobacco pandemic has moved to the developing countries. It is estimated that 80 % of them live in low and middle-income countries. It is well known that half the people who smoke regularly today (about 650 million people) will eventually be killed by tobacco. Equally alarming

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is the fact that hundreds of thousands of people who have never smoked die each year from diseases caused by breathing second-hand tobacco smoke. Governments, legislators, NGOs and society at large needs to be involved to curb this pandemic.

Objective:

To highlight the role of NGOs in tobacco control advocacy.

Methods:

A descriptive study design was used.

Results and Discussion:

This paper highlights the dangers of using tobacco, key-preventing strategies and focuses on tobacco control advocacy role of NGOs. The paper also highlights the fact that the governments and non-governmental organizations in low and middle-income countries cannot work alone. There is an urgent need for collaboration and information sharing to counter tobacco industry lobbying and poor knowledge about the dangers of smoking. Advocacy efforts by NGOs in these nations need to ensure that tobacco control programs to help smokers quit and prevent children from starting are refine, optimized and cost effective. Advocacy efforts by NGOs need also to focus to educate communities about the harms of tobacco and to enhance control activities. NGOs need to advocate the dangers of second-hand tobacco smoke and 100% smoke-free environments as the only effective way to protect people everywhere from exposure to second-hand tobacco smoke. In countries that do not have legislations requiring all indoor workplaces and public places to be 100% smoke-free, the NGOs need to advocate for relevant legislations to be passed and enforced. The advocacy role of NGOs includes measures to ensure the increase of tobacco tax to a level that youths and the poor cannot afford. The non-price measures to reduce the demand for tobacco, namely: Tobacco advertising, promotion and sponsorship; regulation of the contents of tobacco products; regulation of tobacco product disclosures; packaging and labeling of tobacco products. This paper provides insight into 23 years history of tobacco control activities by Action on Smoking and Health Committee (ASH), Malaysian Medical Association, its advocacy role and its impact on change in Government policy and impact on the nation.

Keywords: Tobacco Control, Advocacy Role, NGOs

WS4-3

SMOKING CESSATION TECHNIQUE AND SMOKING CESSATION CLINIC

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Tobacco is the agent most responsible for avoidable illness and death worldwide.⁽¹⁾ Millions of world population consume this toxic product on a daily basis, its use brings premature death to millions of people each year and contributes to profound disability and morbidities in many others. Approximately one-third of all tobacco users will die prematurely because of their dependence on tobacco. Unlike so many epidemics in the past, there is a clear, contemporaneous understanding of the cause of this premature death and disability- the use of tobacco. It is a testament to the power of tobacco addiction that millions of tobacco users have been unable to overcome their dependence and save themselves from its consequences. Indeed, it is difficult to identify any other condition that presents such a mix of lethality, prevalence, and neglect, despite effective and readily available interventions.

Epidemiological data suggest that more than 70% of active smokers

want to quit and have made at least one prior smoking cessation attempt. Approximately 47% of active smokers try to quit each year.⁽²⁾ The first step in treating tobacco users and dependence is to identify active smokers who are willing to quit.⁽³⁾ Willingness to quit is very crucial for smoking cessation and will lead to smoking cessation attempts and success. However smokers who were willing to quit and attempted quitting process, only 7% succeeded and remained smoking free at 1 year after quit attempt without any intervention.⁽⁴⁾ Success rates can be increased to 30-40% by using guideline-recommended treatment or participate in smoking cessation program.⁽⁴⁾ However, despite extensive research, accurate and consistent predictors of successful smoking cessation attempt have not been identified.

Smoking cessation program can be divided into 2 phases: the initial phase and the maintenance phase. The initial phase is the first 2 months after decision to quit smoking and the goal of treatment in this period is to assist smokers to start smoking cessation and deal with withdrawal symptoms and urge to smoke. The maintenance phase is to assist smokers who already quit in the initial phase in prevention of smoking relapse. The key components of clinical intervention for the initial phase of smoking cessation are counseling and pharmacotherapy.⁽⁴⁾ Only brief clinical intervention (3 minutes or less) can significantly improve success rate of quitting attempt. The more intense clinical intervention can lead to higher success rate but may not be practical in routine practice for most practitioners because of time constraint. The recent guideline for treating tobacco use and dependence also recommend that all smokers attempt to quit should receive pharmacotherapy, except in cases in which pharmacotherapy uses requires special consideration (eg, those with contraindications, those smoking fewer than 10 cigarettes per day, pregnant/breast feeding woman and adolescent smokers). There are several medications approved for smoking cessation in The United States. First line pharmacotherapy approved by FDA are nicotine supplement medication, sustained released bupropion hydrochloride and varenicline. These medications have been shown in clinical trials to increase success rate of smoking cessation.⁽⁷⁾ Nortriptyline has also been used in smoking cessation and has been shown to increase success rate significantly compared to placebo.^(5,6) The present guideline from The United States has recommended nortriptyline as a second line therapy for smoking cessation because of concerns regarding side effects of nortriptyline.

Roles of physician and other health care provides are very important in motivating smokers to start quitting process and help them with appropriate approach. Large proportion of smokers may be able to quit with some suggestion or treatment from health care providers but some others may find it very difficult to quit and may need intensive treatment program. The implementation of 5 A's model will improve smoker identification and quitting process. (Ask, Advise, Assess, Assist and Arrange follow up). All physician must view tobacco addiction as a chronic disease and provide appropriate treatment for individual patient. Roles of general practitioner are identify active smokers and provide motivation and advise to quit and also simple brief counseling to help patient with quit process. Smoking cessation specialists or smoking cessation clinic should be available to provide intensive treatment for smokers who can not quit by simple intervention.

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WS4-4

ROLE OF PHARMACISTS IN SMOKING CESSATION PROGRAM

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NGOs worldwide, including health professional organizations, are being called upon to assist the government in tobacco control. Health professionals in the community have the unique opportunity to identify smokers, advise and assist them in quit attempts. However, not all are adequately trained to provide smoking cessation services. To prepare community pharmacists for this role, the Malaysian Pharmaceutical Society (MPS) launched a program called Certified Smoking Cessation Service Provider (CSCSP) in 2004. The main objective is to provide community pharmacists with additional knowledge and specialized counselling skills to help smokers quit.

This program represents a working example of a collaborative effort in health promotion among the NGO, the health professionals, the government sector and the private industry, namely the MPS, the Clearinghouse for Tobacco Control, Malaysian Academy of Pharmacy, the community pharmacists, the Public Health Department of the Ministry of Health, and Pfizer Consumer Healthcare.

Resources are drawn from all these sources to prepare the training manual, facilitators for the workshop, logistics of organizing the program, hands-on training centres and monitoring of the trained pharmacists.

The home-study training manual is one of three key elements of the CSCSP program. The other important element, perhaps even more important than the manual is the workshop conducted by trained facilitators. The final element is the participation of the pharmacists at a government-run quit smoking clinic for hands-on experience on smoking cessation consultation.

Workshops were held throughout the country at various times in order to provide opportunity to all pharmacists to take part in this program. Five workshops were conducted in 2004, 10 in 2005 with 6 refreshers, and 3 in 2006. A total of 540 pharmacists had been trained, providing a pool of 32% of current community pharmacists.

The pre-training knowledge, attitude and practice (KAP) assessment of 136 pharmacists [107 (78.7%) females and 21.3% (n = 29) males, age 24 – 51 years] revealed that about 88 (64.7%) obtained $\geq 50\%$ correct answers of the knowledge section.

100% agreed that it is essential for pharmacist to promote and provide smoking cessation services. 95% responded that providing the service increases job satisfaction and 44% believed that it could increase sales figures.

98 (73.7%) respondents reported to provide smoking cessation services, 90.2% of them provided the service occasionally and 75.25% of them occasionally assess the smoking status of their customers. 9.7% of non-service providers vs. 3.1% of service providers reported to be the least

confident ($p = 0.003$) while 4.1% of service providers rated themselves to be most confident in smoking cessation counseling.

Most pharmacists use verbal counseling (85%), 76% use leaflets and 52% administer the Fagerstrom questionnaire. Most spent 15 minutes for each counseling session (mean 14.78 ± 7.12 mins).

Almost all pharmacists use medication and counseling as main intervention to help customers stop smoking. However, 90% of them do not keep records of customers counseled.

The post-training KAP is currently being evaluated.

Other activities include the CSCSP Quit-N-Win Challenge, Corporate Smoking Cessation Program and production of newsletter: CSCSP LINK.

OS

CHALLENGE OF TUBERCULOSIS THROUGH THE AGE

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WHO Western Pacific Region

History

Tuberculosis is an old disease. Tubercular decay has been found in the spines of mummies as early as 3000 BC. Around 460 BC Hippocrates described a disease that involved coughing up blood and fever and that was almost always fatal. He called this disease phthisis or consumption, because it seemed to consume people from within. The bacillus causing tuberculosis, *Mycobacterium tuberculosis*, was identified and described on March 24, 1882 by Robert Koch, for which he received the Nobel Prize in 1905. Tuberculosis caused widespread public concern in the 19th and early 20th centuries as an endemic disease with a very high mortality rate, particularly among the urban poor. In 1815, one in four deaths in England was due to consumption; hundred years later, one in six deaths in France were still caused by TB.

Early treatment strategies

Having identified TB as an infectious disease, countries were faced with the challenge to contain the spread of the disease. For this purpose, sanatoria were established as it was believed that fresh air, sunshine and labour provided benefits to TB patients, and prevented the spread of TB to the general public. However, the number of TB patients far outweighed the available beds in sanatoria, and even under the best conditions, half of those who entered ended up dead within five years. Widely applied surgical treatment did little to improve mortality rates.

Anti-TB drugs

Although the prevalence and mortality of TB saw a substantial decline from 1850 to 1950, the disease remained a significant threat to public health, and tuberculosis research, particularly the search for effective drugs, featured prominently in many countries. Effective treatment and cure became possible with the development of the antibiotic streptomycin in 1946. Many anti-TB drugs followed, including PAS, cycloserine and INH and ultimately rifampicin. This was important because it was soon established that with monotherapy resistant mutants began to appear within a few months. This led to the application of multiple drug treatment, which resulted in a rapid decline of TB mortality.

Progress in the past 15 years

Many countries have experienced good progress in their fight against TB. The introduction and rapid expansion of DOTS after WHO declared a global TB crisis in 1993 has resulted in high case detection and treatment success in many countries across the globe. The Stop TB Partnership, established in 2000, the Global Plans to Stop TB and the significant increase in resources to address TB, all have contributed to

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the availability and accessibility of inexpensive treatment for TB patients in all parts of the world. Yet many challenges remain, and new challenges are emerging.

Drug resistance

Inappropriate, incomplete and insufficient treatment with anti-TB drugs in the past 20 years has created havoc. Mycobacteria have emerged with resistance patterns rendering all currently available antibiotics ineffectual imposes major challenges. Not only have TB bacilli become resistant to first-line drugs, more recently TB strains are spreading that have developed resistance to second-line and last resort drugs. The pharmaceutical industry has mostly abandoned TB drug development due to perceived non-profitable consumer market, which leaves the TB community faced with a huge challenge.

TB-HIV

The rapid spread of the HIV epidemic has created more problems for national TB programmes. TB is the most common opportunistic infection among people infected with HIV, and it is the single-most important cause of death among patients with AIDS. The HIV epidemic has caused a more than ten-fold increase of TB notifications in some of the countries most affected by HIV. Countries are faced with the challenge to establish effective collaboration between TB and AIDS programmes.

Other challenges

In spite of recent improvements in national TB control programmes, many patients remain undetected and untreated, and many providers continue to provide inadequate diagnostic and treatment services. People living in remote areas, or people struck by poverty are examples of the lack of equitable access to TB services.

Conclusion

In terms of TB control, the world is at a crossroads. Challenges are enormous and may result in major setbacks. History has taught that there are no short term solutions and that long term commitment is critical. In spite of the challenges mentioned earlier, opportunities to address TB control have never been better. Global alliances have been established for TB drug development; progress is being made on development of new TB diagnostic tools; and the global alert to extensively drug-resistant TB has increased access to funding.

We only need to look at the recent progress that has been made in the Western Pacific Region, to acknowledge that global targets can indeed be achieved as planned, if an effective strategy is available and its implementation is made possible by strong commitment from both governments and their partners. The TB community needs to be confident that it can reduce the burden of TB to such an extent that it is no longer a public health problem.