



## Inauguration of Tenth Meeting of the Governing Board of SAARC TB Centre

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## SAARC Tuberculosis Publication

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STC Newsletter is regular publication of SAARC TB Centre. It includes reports on activities, decisions of important meetings of the Centre and recent information on tuberculosis and its control.

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# Report on Activities

## STC held its Tenth Meeting of the Governing Board

Tenth meeting of the Governing Board of SAARC TB Centre (STC) was inaugurated in Kathmandu on 27<sup>th</sup> February 2001 in a function held under the chairmanship of Hon'ble Dr. Nirmal Prasad Pandey, Member National Planning Commission of Nepal. The meeting was inaugurated by the Hon'ble Mr. Tirth Ram Dangol, State Minister for Health, His Majesty's Government of Nepal.

Inaugurating the meeting Hon'ble Minister extended a warm welcome to the participants and appreciated the cooperation among Member States in prevention and control of Tuberculosis. He appreciated the special efforts initiated by SAARC TB Centre to check the dual infection of TB and HIV/AIDS by implementing the programme in coordination with Health Canada under the SAARC-Canada project. He expressed his satisfaction on signing of Memorandum of Understanding (MoU) between SAARC and WHO. He thanked H.E. Secretary General, SAARC and WHO authority of SEARO for this important matter of signing MoU.

His Excellency Mr. Nihal Rodrigo, the Secretary General, SAARC addressed the meeting and informed that SAARC has accorded high priority for TB control in the Region. He also highlighted the activities of SAARC TB Centre and expressed his appreciation on the role of STC being played in order to control the disease.

Dr. D. S. Bam, Director, STC extended a warm welcome to the participants and expressed sincere thanks to the Chairman, Chief Guest, Secretary General, SAARC and distinguished guests for their presence in the function.

Dr. D. P. Manandhar, Officiating Secretary, Ministry of Health highlighted the role of SAARC TB Centre in TB and HIV/AIDS control in the Region.

Dr. B. D. Chataut, Director General, Department of Health Services of Nepal also addressed the function.

Mr. Ibrahim Shaheem, Chairman, Governing Board, SAARC TB Centre proposed vote of thanks.

The Board reviewed the progress in the implementation of the decisions taken at the Ninth Meeting of the Governing Board. The Director, STC presented the reports on the activities carried out by the Centre during January-December 2000. By expressing satisfaction on the progress made by the Centre, the Board recommended the following programmes for implementation during the year 2001:

- ◆ Public awareness & advocacy on Tuberculosis on World TB Day 2001, SAARC Charter Day, Partnership programmes with School, Media and Industries in Member countries and documenting the situation of TB and HIV/AIDS control in the Region.
- ◆ Trainer's Training in TB control programme management
- ◆ Workshop for preparation of strategic long-term plan of STC for TB and HIV/AIDS control in the Region.
- ◆ Seminar on involvement of NGOs and private sector in TB control.

- ◆ Meeting to formulate guidelines for migratory population in TB and HIV/AIDS control.
- ◆ Strengthening of networking with institutions working for TB & HIV in the Region.

**The programmes to be undertaken during the year 2001 under the SAARC-Canada project:**

- Meeting of Directors of Focal Reference Laboratories for the Project in Member Countries.
- Meeting of TB and HIV/AIDS focal points for the Project

- Country visits to finalize various issues pertaining to the Project.

**The joint STC-WHO programmes for the year 2001.**

- Meeting of potential consultants in the Region
- Meeting on Cross Border Issues relating to TB, HIV/AIDS, Malaria and Kala-azar.

The Board also expressed that the Centre may organize SAARC Regional Conference for TB, HIV/AIDS and other respiratory disease Control in 2002 or 2003.

## SAARC-WHO Meeting of Potential Consultants in TB Control



A meeting of potential consultants in TB control and review of draft guidelines for preparation of 5 year TB control plans was held in Kathmandu from 22-24 January 2001. This was the 2<sup>nd</sup> joint activity of SAARC TB Centre and WHO/SEARO after signing of SAARC-WHO MoU.

Participants from South East Asian countries, WHO Head quarters, WHO/SEARO, WHO country offices and SAARC TB Centre participated in the meeting.

*The Objectives of the meeting were:*

- to brief the participants on disease burden,

strategies for TB control and their out come in the South East Asia Region,

to review and finalize the draft guidelines for preparation of 5 year strategic plans for TB control and

to brief participants on the steps involved and action required in the

formulation of national 5 year TB control plans.

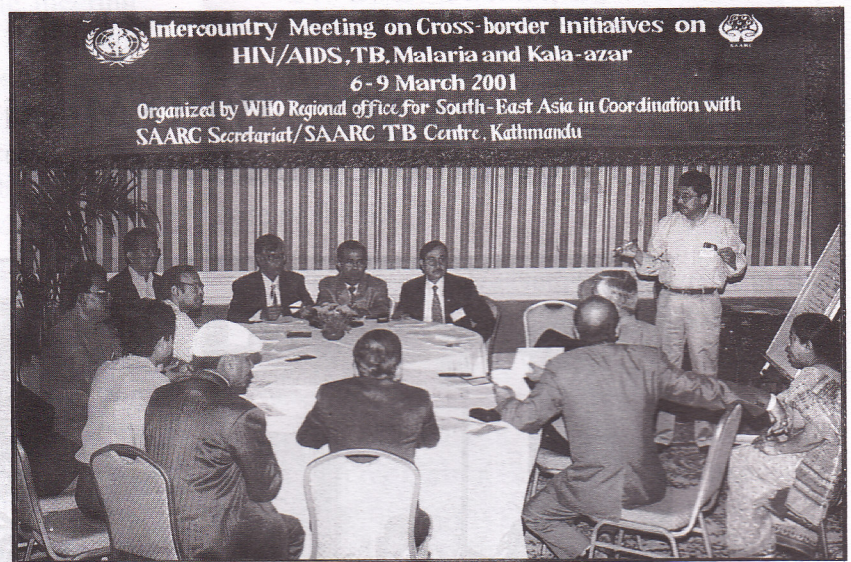
A three-day meeting was inaugurated by Dr. J. P. Narain, Regional Advisor for TB, HIV and STI in WHO/SEARO in a function held in Kathmandu on 22<sup>nd</sup> January 2001.

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## Inter-country Meeting on Cross-Border Initiatives in HIV/AIDS, TB, Malaria and Kala-azar

A four-day meeting was organized jointly by SAARC TB Centre and WHO/SEARO in Kathmandu from 6 to 9 March 2001. The meeting was inaugurated by Hon'ble Mr. Ramkrishna Tamrakar, Minister for Health, under the chairmanship of Mr. Padma Prasad Pokharel, Secretary for Health His Majesty's Government of Nepal. In the inaugural function Dr. D. S. Bam, Director, SAARC TB Centre welcomed the participants and experts from WHO. WHO representative to Nepal Dr. Klaus Wagner read the message of Dr. Uton Muchtar Rafei, Regional Director, WHO/SEARO. Mr. M. B. Poudel, Director, represented the SAARC Secretariat and addressed the function. The Vote of Thanks was delivered by Dr. B. D. Chataut, Director General, Department of Health Services, His Majesty's Government of Nepal.

About 60 participants from Bangladesh, Bhutan, India, Nepal, SAARC TB Centre, WHO Temporary Advisors, representatives from UN Agencies, USAID, WHO Headquarters, WHO/



SEARO, and some observers from Nepal participated in the meeting.

*The specific objectives of the meeting were:*

- to review the cross-border issues in HIV/AIDS, TB, Malaria and Kala-azar in the participating countries,
- to exchange experiences and lessons learnt on interventions to reduce the spread of these diseases across the border and
- to prepare joint plans of action including pilot projects for dealing with cross-border issues in HIV/AIDS, TB, Malaria and Kala-azar.

## ***Recommendations and Follow-up Actions:***

### **National Governments:**

1. Ministers of Health and other related Ministries accord a high priority to the control of cross border communicable diseases, by:
  - a) Endorsing the joint plans of action prepared during this meeting, and subsequently finalizing them.
  - b) Forming national coordinating committees, and identifying national focal points, for integrated cross-border communicable disease control.
  - c) Initiating implementation of joint plans of action in selected border districts, and use this experience to further expand cross-border interventions in other districts.

### **WHO/SAARC:**

2. Develop operational guidelines for integrated cross-border communicable disease control, and initiate discussions on

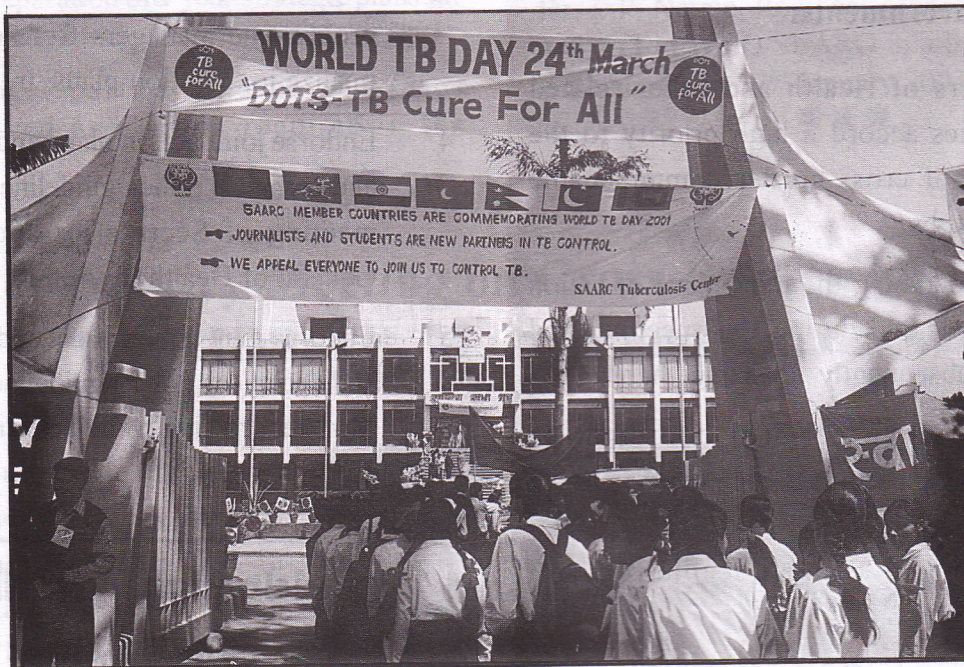
standardization of technical policy guidelines, by July 2001.

3. Organize meeting of technical experts and programme managers from countries to finalize joint action plans, by July 2001.
4. Endorse joint action plans and operational and technical policy guidelines at regional meeting of Secretaries and Directors General of Health by August 2001.
5. Endorse joint action plans and operational and technical policy guidelines at Health Ministers meeting to be held in September 2001.

### **Participation in Medical Conference**

Dr. D. S. Bam, Director and Dr. P. Kumar, Deputy Director of SAARC TB Centre participated the 20<sup>th</sup> All Nepal Medical Conference, organized by Nepal Medical Association in Kathmandu. They presented scientific papers on DOTS: Effective Strategy for TB Control and HIV/AIDS is a biggest threat to TB Control in South Asia, in the conference.

# World TB Day 2001



The World TB Day is observed on 24<sup>th</sup> March every year. It was on this day in 1882 that Dr. Robert Koch, a German Bacteriologist, announced his discovery of the TB bacillus, the infective agent that causes Tuberculosis. It is on this day that people across the globe come together to join hands to stop TB at the source. The Koch's discovery made a great change towards the controlling and elimination on TB. But the progress became very slow in further developments in this regard. Only in 1940s, effective anti TB drugs were discovered.

In 1982 the World Health Organization and IUATLD sponsored the first World TB Day on the centenary celebration of the discovery of the TB bacillus. To day the World TB Day has become a major international health event. Not only in the SAARC region but all over the world the day is commemorated by organizing different activities to make people aware of TB.

TB is a socio-medical problem. One third of the world's population is infected with the TB bacillus. It is the biggest killer of young people and adults. The SAARC region accounts more than 38% of global burden with 0.6 million deaths every year.

By consideration the devastating situation, the Governing Board of the SAARC TB Centre consensus to observe the World TB Day all over the region on 24<sup>th</sup> March every year. The following activities were organized on this day:

## **Joint Function:**

SAARC TB Centre commemorated the World TB Day 2001 by organizing different activities in collaboration with HMG Nepal, WHO, JICA and NATA. An special function was organized jointly at City Hall in Kathmandu. Hon'ble Tirtha Ram Dangol, State

Minister for Health was the Chief Guest and Dr. D. P. Manandhar, officiating Secretary for Health, chaired the function. The function was also attended by large number of people among them were the policy makers, diplomats, intellectuals, journalists, students, bureaucrats, technocrats, teachers, community leaders, officials, social workers, etc.

The Hon'ble State Minister inaugurated the function by lighting lamp, In his inaugural address he urged every body to have a stake in fighting against TB and make the region free from it. Mrs. Bhuwaneshari Satyal, President, NATA Kathmandu Branch, Mr. Devendra Bdr. Pradhan, President, NATA, Central Office, Dr. P. Kumar, Deputy Director, STC, and Dr. Anand Mohan Das, from WHO Nepal addressed the function.

Dr. D. S. Bam, Director STC/ NTC extended warm welcome to the participants and presented a success story of DOTS in Nepal. The vote of thanks was delivered by the Director General, Department of Health Services HMG, Nepal.

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**The theme of this year's World TB Day was 'DOTS- TB cure for all'.**

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**The specific objectives of the World TB Day were:**

- ◆ Raising public awareness
- ◆ Attracting media attention
- ◆ Getting commitment from policy makers and politicians
- ◆ Mobilizing community at large
- ◆ Raising fundss

In order to meet the above objectives SAARC TB Centre also organised various other programmes from 22<sup>nd</sup> to 24<sup>th</sup> March 2001.

## **22<sup>nd</sup> March 2001:**

### ***Briefing Programme for Students on Role of SAARC TB Centre in TB control:***

SAARC TB Centre has initiated the partnership project with school to intensify our efforts of TB Control. STC utilized the occasion of World TB Day 2001 and organized a interaction programme for the students on 22<sup>nd</sup> March 2001 in its premises. About 50 students and 5 teachers from 5 schools of Kathmandu attended the programme.

Dr. D. S. Bam, Director, STC welcomed the teachers and students and explained about Tuberculosis disease, its causes, situation of TB in Nepal and about the DOTS strategy of TB Control.

Dr. P. Kumar, Deputy Director, STC made presentation about the Role of Schools and objective of Partnership Project in TB control. He informed that students have been considered as the most potential force of the community in order to spread the messages of TB control.

Mrs. Bhuwaneshari Satyal, President, NATA Kathmandu Branch, explained the role of schools in TB control and highlighted what a student can contribute for TB control in the society.

All the students have shown their enthusiasm to know about the disease and its existing methods of control. Various questions have been put forward by the students and the answers were given by Dr. D. S. Bam, Dr. P. Kumar and Dr. K. K. Jha, consultant chest physician from NTC.

The students observed an exhibition organized by STC in which information and materials about situation of TB and HIV/AIDS in Member Countries; Partnership Projects with School, Media and Industries; SAARC-Canada

Project, activities and achievements of STC; and publications of STC were displayed. On this occasion the Books prepared by STC for creating awareness by initiating partnership project were distributed to the teachers and students.

Journalists from different media also actively participated in this programme.

### **23<sup>rd</sup> March 2001:**

#### ***Displaying of Banners:***

The banners with various messages regarding TB and its control were displayed on important public places in order to seek cooperation from all sectors of society.

### **24<sup>th</sup> March 2001:**

#### ***Advocacy Campaign by using print and electronic media:***

One of the major events of the World TB Day 2001 was wide coverage of information and material regarding TB and HIV/AIDS control in the national dailies and local newspapers.

Radio messages of Hon'ble State Minister for Health and Secretary for Health, Director, SAARC TB Centre were broadcast by the Radio Nepal. Similarly messages from His Excellency Secretary General, SAARC, Director and Deputy Director, STC were telecast by Image Channel on Nepal television and Radio Nepal. The messages of His Excellency, Secretary General and Director, STC along with the important article written

by Dr. D.S. Bam and Dr. P. Kumar were published in national daily "The Rising Nepal".

#### ***Organizing an Exhibition:***

SAARC TB Centre organized an exhibition on HIV/AIDS and TB in the open place of City Hall in Kathmandu. The information on TB and HIV/AIDS in the member countries; Reports of important activities carried out by the Centre; material regarding involvement of new partners in TB control and STC publications were displayed was observed by a large number of visitors.

#### ***Releasing of the Book:***

On 24<sup>th</sup> March 2001, Hon'ble State Minister for Health released a book prepared by STC on "**Role of SAARC TB Centre in TB Control**" in a joint function held at City Hall. This book consists the information on TB and HIV/AIDS in Member Countries, efforts being made by STC to support the Member Countries in TB control along with details of strategy of the disease control.



# Public Awareness and Advocacy in Relation to TB and HIV

## Project with Schools



After getting excellent experience from the pilot project at KVK, it was thought to expand the activity in other schools.

Mrs. Bhuwaneshwari Satyal, President, Nepal Anti-TB Association (NATA) Branch, Kathmandu has agreed to co-ordinate with five schools to be included in the project.

A briefing programme was held in Kanya Mandir Higher Secondary School. The officials of NATA Branch, Kathmandu and representatives of following identified schools involved in the project were informed about the project.

1. Kanya Mandir Higher Secondary School, Chhetrapati.
2. Nandi Madyamik Vidyalaya, Naxal.
3. Nava Jeewan High School, Samakhusi.

4. Shree Shanti Vidya Griha, Lainchour.
5. Bhudhanilkantha School, Kathmandu.

All teachers expressed their appreciation about the programme planned by STC in order to prepare school children to create awareness about tuberculosis and its control in the community.

### Felicitations to the participants of School Project

A function to felicitate Mr. V. Venkataraman, Principal, teachers and students of Kendriya Vidyalaya Kathmandu was held in STC. The Director, STC awarded certificates and appreciation letters for their support and cooperation in successful partnership project at pilot site.



# Special Articles and Technical Information on Tuberculosis

## National Tuberculosis Programme in Pakistan

Dr. Hassan Sadiq\*

○ Name of Country :	Islamic Republic Federation of Pakistan
○ Total Population :	130 million
○ Total Area :	852,392 Sq. KM (around)
○ Per capita Income :	US\$ 460.00
○ Health Expenditure (Public Sector) :	0.74%
○ Total Health Sector investment :	2.7% of GNP

### History of Tuberculosis:

Tuberculosis has been with us for many centuries and unfortunately it was one of the neglected health crises in the past, though the national TB programme started in 1965. The programme was halted in 1981 because the provinces were unable to support the programme after premature withdrawal of external support. For more than one decade, TB remained a low priority and the programme at all levels has continued to suffer from insufficient financial support, weak technical leadership and the limited collaboration with all partners in TB control. The Government started rehabilitation of the programme in 1994. National Health Policy adopted the DOTS as the agreed strategy for the control of TB. It proposes to integrate TB control with in the existing primary health care system. DOTS pilot projects started in provinces from 1995 but progress is slow. DOTS activities cover only 8% of the total population in contrast to target of 100% coverage by year 2000.

Present government realizes the gravity of problem and has given the high priority to TB control in health sector reform and has restarted rehabilitation process.

### Present Status of TB Control:

Pakistan has extremely high burden of Tuberculosis. It has the 5<sup>th</sup> highest burden in the world and is accounting for 44% of the burden in the Eastern Mediterranean Region of WHO. Every year, around 350,000 people develop tuberculosis and around 26% of all the deaths are due to TB. Most of the TB cases are under 45 years old, so the impact of TB on socio economic status is substantial. Moreover, due to neglect and low priority given to TB control, there is emergence of multi-drug resistance.

### Achievements:

DOTS pilots started in four provinces in 1995. Two provinces, Balochistan and NWFP, made good progress with 25% DOTS coverage. Programme implementation decentralized to provinces. Federal and provincial roles and relationship re-defined. Programme control guidelines have been developed. TB has been included in the priority list of funding in the financial year. PC1s (Project proposal to secure funds) in process for approval.

In Pakistan Tuberculosis control & prevention activities were started in 1949, with mass BCG vaccination campaign. It was the time

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when no data was available on the prevalence & incidence of the disease in the country. In 1959 a plan of operation was prepared to conduct first ever prevalence survey in Pakistan with the collaboration of WHO and UNICEF, the survey was carried out in 1960-61 with the following objectives:

- ◆ To obtain information on the Prevalence and Epidemiology of Tuberculosis in Pakistan.
- ◆ To formulate a comprehensive National TB Control Programme based on the information obtained through the survey.

The results of the survey showed that TB is No. 1 Public Health Problem in Pakistan, one out of every 22 person in the country has pulmonary Tuberculosis.

**Table 1: Results of Three Surveys to Assess the Disease Burden:**

	1962	1978	1987
X-ray (Active Lesion)	4.6%	3.1%	not done
Infection Rate (5-9 years old)	23%	13%	8%
Sputum Smear Positive	not done	0.31%	0.17%

Organized TB Control activities started in 1965. A twenty-year perspective plan of NTP was prepared. This plan had four successive five-year phases with the following main objectives:

- a) **First two 5 year period:**
  1. To provide training to all the concerned health personnel.
  2. To provide free of cost diagnosis (through passive case finding) and treatment.
  3. To provide BCG vaccination.
  4. Health Education
- b) **Second two 5 year period:**
  1. Early diagnosis & treatment (active case finding) through MMR.
  2. Health Education.

The programme was aimed to develop an integrated approach with the general health services. Only rural health centres some basic health units and THQ Hospitals were proposed for integration of tuberculosis control activities. Establishing specialized TB clinics/centres at district level as referral centres and to supervise integrated TB activities in rural areas of the districts in addition to this establishment of TB wards at district head quarter hospitals. This methodology was successful to some extent as rural centres were reporting cases. In 1982 UNICEF withdrew its financial assistance. It was a serious setback to the TB control activities especially for the integrated TB services in rural areas, because the provincial health departments could not provide adequate funds for TB to districts. This deteriorated the condition and patients had to go to TB clinics/centres or private sector because of non-availability of diagnostic treatment facilities. Regular supply of drugs and reagent at rural health facilities was the main issue. Most of the TB clinics/centres are located in urban areas therefore, traveling long distances has lead to patients' delay in seeking care and also have affected the compliance to the treatment. Specialized TB services having separate budgets are now overcrowded/overburdened resulting in regular drugs supply collapse & deteriorated quality of care to TB patients. In this plan, establishment of two National Tuberculosis Institutes (Dacca & Rawalpindi) was proposed to provide regional specialized facilities, training and research but it could not materialized due to above mentioned setback, 1971 war and frequent changes of governments. Diagnostic strategy was X-ray, Tuberculin Test and Sputum Microscopy at district centres and sputum microscopy at RHC & THQ Hospital. Ambulatory treatment was recommended with standard regimen of 12-18 months. Technical and operational guidelines were not developed.

For almost more than a decade (1982-1994) the National Tuberculosis Control Programme's activities were practically suspended. Few training courses with the collaboration of WHO were conducted but not

very useful because the trainees could not implement the programme due to non-availability of equipment & drugs. The other activity worth mentioning in this decade is prevalence survey of the disease conducted in 1987-88 (see table 1) which slowed declining trend but non-significant.

In 1993 WHO declared Tuberculosis a global emergency because of its resurgence & emergence of multi-drug resistance. Pakistan being signatory to global targets of Tuberculosis control, 1993 World Health Assembly declaration, revised its National Tuberculosis Control Programme in line with the WHO recommended strategy of Directly Observed Treatment Short-course (DOTS).

## DOTS

- ◆ **Political Commitment to sustained TB control activities**
- ◆ **Passive Case Finding through sputum microscopy**
- ◆ **Standardized drug regimen under direct supervision**
- ◆ **Regular supply of anti-TB drugs**
- ◆ **Recording, Reporting, Monitoring and Evaluation**

In 1995 National Guidelines (technical) for Tuberculosis control in Pakistan were developed and DOTS pilot sites were initiated.

**Table 2: DOTS Pilot Sites in Pakistan**

Province	DOTS pilot sites	Population Coverage
Federal	Islamabad (rural)	100,000
Punjab	Rawalpindi, Nankana Sahib, War Bartan, Gujranwala (NGO run), Sahiwal (NGO run), Sialkot (NGO run)	2,500,000
Sindh	Karachi urban (Malir, Nazimabad, Orangi, North Karachi), Sindh rural (Hala, Nasirabad)	7,600,000
NWFP	Peshawar, Charsada, Mardan, D. I. Khan, Swat, Chitral Masshera, Buner, Bunnu	6,600,000
Balochistan	Mustung, Dera Jamali, Dera Bugti, Qilla Abdhullah, Pishin	500,000
<b>Total</b>	<b>25</b>	<b>17,300,000</b>

A project proposal (PC-1) for five years was prepared to secure funding for the nation wide coverage of the programme. In this plan it was proposed that the central unit of NTP will implement the programme for first two years and then in the next three years the provinces will manage the programme and central NTP will provide funds according to the needs of provinces. This PC-1 could not be materialized due to lack of consensus on roles & responsibilities, administrative and technical issues.

In 1996 NTP suffered another great set back that is the abolishment of Directorate Tuberculosis Control Programme. All the duties and responsibilities of NTP directorate were assigned to a single person i.e. Medical Superintendent TB Centre, Rawalpindi, without additional support of funds and manpower. This situation further weakened the NTP especially at federal level at a very crucial time when provinces needed advice and support to

implement a new and relatively complex strategy of DOTS. For few years there was lack of coordination with centre and among provinces. Provincial TB control programmes were working in isolation as a result two provinces Balochistan and NWFP made good progress where as Punjab & Sind lacked behind, Punjab was unable to start even a single pilot site in integration with PHC. Over all expansion from pilot to scale is so slow that DOTS national coverage is only 8%.

World Health Organization has not only declared Pakistan one of the sixteen countries where appropriate measures have not taken place to control TB, Pakistan has also been enlisted in those six countries where Tuberculosis is an major public health problem. However, there is almost no official response to address this major public health issue.

The activities geared up in mid 1998. NTP implementation decentralized to provinces, federal and provincial roles, responsibilities and relationship re-defined with consensus in a meeting held in July 98 at ministry of health in which all the provinces participated, these are:

#### **Federal Role:**

1. National Policy frame work
2. Technical Assistance
3. Monitoring, Supervision and Surveillance
4. Information, Education, Communication (IEC) and Advocacy
5. Coordination (International & inter provincial)
6. Promotion of Research

#### **Provincial Role:**

1. Planning and managing provincial programmes.
2. Secure funding.

3. Implementation of DOTS through strengthened diagnostic & treatment facilities.

4. Monitoring and Supervision.

In 1999 government of Pakistan declared TB control as one of the priority project and included it in the priority list for funding from this financial year (starting from 1<sup>st</sup> July 99). Funds will be made available from SAP-ii. (Social Programme, Multi Donor Support) once PC-1 is approved.

National TB Control Programme with four provinces and other partners have been formulated the strategic frameworks for implementation of DOTS in their respective provinces. The integration with primary health care, optimal intra-sectorial coordination and minimal additional liabilities has been the guiding principles. Operational guidelines and operational plans are being prepared to implement community based DOTS, and to extend 100% coverage of population by the end of year 2005.

The vision for the future is that TB control remains high priority for sustainable delivery of high quality of TB control services in primary health care, strengthened public private partnership, involvement of NGOs and operational research. TB control programme in Pakistan have given the lesson that:

1. Action oriented commitment for sufficient funds.
2. Strong technical leadership for programme implementation.
3. Consensus among all partners for standardized approach.
4. PHC integrated approach.

These are the essential components for successful programme, which has been missing in the past.

## Chronology of TB Control in Pakistan

- 1962 First TB prevalence survey was conducted by the Government of Pakistan with assistance of UNICEF/WHO.
- 1965 A twenty-year TB Control Programme was launched by the Government of Pakistan with assistance of UNICEF/WHO. The strategy was to establish TB Centres, TB Wards at DHQ and Sanatorium.
- 1978 Second TB prevalence survey conducted.
- 1985 UNICEF/WHO withdrew financial assistance.
- 1987 Third nationwide prevalence survey showed declining trends (primarily due to methodological differences and secular trends).
- 1993 WHO declared TB a global emergency. Pakistan is a signatory to the revised global TB control efforts.
- 1994 Revised NTP policy on the basis of DOTS.
- 1995 Manual of treatment guidelines of tuberculosis control prepared. 5 DOTS pilot sites initiated
- 1996 Directorate for tuberculosis control was abolished and duties were assigned to a National Manager NTP.
- 1998 Decentralization of DOTS implementation to the provinces and integration of tuberculosis control with primary health care.
- 1999 Federal and provincial TB control programme are likely to get funded through government budget in the coming year. (TB included in priority list for public funding).  
National strategic frameworks for implementing community base TB care (DOTS) agreed by all provinces.

### Plan for 1999-2004

- ◆ 100% countrywide coverage of DOTS (by the year 2004).
- ◆ Decentralized TB care integrated with general health services.
- ◆ Research and development of further strengthen the service delivery.
- ◆ Effective involvement of NGOs and private practitioners in TB control.
- ◆ Strengthened MDR surveillance.

#### Health Facilities in Pakistan:

Province	Hospital	RHC	BHU	TBC	Sanatorium
Sindh	322	89	658	178	2
NWFP	188	87	988	25	1
Balochistan	59	47	431	16	2
Punjab	286	287	2394	53	1
Federal	10	3	13	1	0
Total	865	513	5121	262	6

# TB Control a Shared Responsibility

Dr. P. Kumar\*

21<sup>st</sup> century begins with more people dying of TB than ever before. Two million people die each year from TB. Developing countries are worst hit accounting for as much as 95% of all new cases and 98% of all TB deaths. TB is a Socio-medical problem and isolated health sector can not alone stop TB. The fight against TB needs every once support. On the occasion of SAARC Charter Day I want to take this opportunity to make an appeal to every one on this day, for active co-operation in order to mobilize community for TB Control.

## TB is disease of poor

TB is a disease of poor, which further increase the poverty. More number of TB cases reported in the areas experiencing overcrowding, poor air circulation, malnutrition and poor sanitation. All these factors are associated with poverty. In developed countries there was significant decline in TB cases even before advent of TB drugs. It was possible because they had improved working conditions, better living activities and less over crowding at that time. While 95% TB cases are living in developing countries only 5% of global expenditure of TB Control is available to spend in high burden countries.

## TB affects Children

There was a myth previously, that tuberculosis is a disease of older age but in reality, TB is affecting large proportion of children in developing countries. Over 10% childhood hospital admissions and 10% hospital

deaths are reported in children due to TB, moreover children having HIV are more vulnerable for getting TB.

TB diagnosis is difficult in children because it is hard to confirm diagnosis even with availability of laboratory facilities. The presence of HIV has increased the difficulty because some children are being misdiagnosed as having TB and given treatment, while as others with TB may be falsely diagnosed negative and not received treatment. Children are exposed to TB primarily through contact with infectious adults in their surrounding or in house hold. Children of parents having TB may also be taken out of schools or sent to work to support the family.

No vaccine exists that is truly effective against pulmonary TB. The BCG vaccine is useful only preventing certain types of TB, namely miliary and brain TB, occurring in very early years of life.

## TB Kills Women

TB is the greatest single infectious cause of death in young women, while few women than man are diagnosed with TB a greater percentage women die of it. The stigma associated TB falls far more heavily on women, particularly young girls with TB find difficulty in finding a marriage partners. Some families deny or hide unmarried daughter's illness. The women having TB, in some of SAARC Member Countries, face consequences like abandonment by the husbands and/or his families, divorce or husband's taking a second wife and consequent loss of social and economical support.

\*Deputy Director, STC

## **TB is more in migrants and prisoners**

Migration is social phenomenon and health risk is increased in migrant population. Access to TB treatment is particularly difficult for seasonal migrant workers. TB is more in prisoners as the air born spread of infectious droplets, usually when an infectious person coughs transmits TB. Crowding and poor ventilation favors its transmission. The setting in prisons, detention centers for asylum seekers, penal colonies or camps greatly increase vulnerability to TB.

## **TB and HIV have unholy alliance**

HIV may be the most potent risk factor for TB yet identified. The two infections have a symbiotic relationship. HIV infection is fueling the TB epidemic and TB is escalating the HIV mortality rates. People infected with HIV have a 50 percent risk of developing active TB, through the risk for HIV negative people is only 5-10 percent. TB is the most common cause of death in persons with HIV infection throughout the world.

## **TB is fully Curable Disease:**

TB is fully curable disease, Directly Observed Treatment Short-course (DOTS) ensures cure of every TB patients. DOTS is a strategy in which TB patient is diagnosed by simple sputum test and the anti TB medicines are provided to patient and he/she has to take those medicines in presence of a health staff, community volunteer or accountable person until patient declared cure. DOTS ensure cure of every TB patient however, this has to be implemented throughout the country to cover every TB patient.

## **Every one of us has responsibility for TB Control:**

Every one of us has to work hard for TB control. The social mobilization is very important for diseases control however it is more important in TB control because TB patients need to take medicine for 6-8 month regularly, which need special efforts for which every one of community has contribute. Isolated efforts can not have same impact as collective one. Advocacy to mobilize resources and effect policy change, media and special events to raise public awareness, partnership building and networking & community participation are all key social mobilizations.

## **What needs to be done ?**

### ***As a citizen:***

Call up your Representative, your Deputy, your Mayor and ask them to make a statement, either written or oral, on World TB Day.

- ◆ Organize an event in your community to remind people of TB. You can ask us to get speakers.
- ◆ If you are a student or teacher, organize an event at your local school or university.
- ◆ Organize a march for access to TB & HIV care, check with local health care worker if you need assistance.

### ***As a Journalist/Editor/The Media:***

- ◆ There are many topics for stories: what does TB care look like in your community or your country? What do the patients say? What are the commitments at the national level and, if they exist, how do they translate into the Primary Health Care structures? Is there sufficient qualified manpower to make DOTS work?

- ◆ Take and run in your newspaper the stories and ready-made articles available in SAARC TB Centre.
- ◆ Run the audio tapes on TB Control
- ◆ Air the "TB can be Cured" video on your local TB Programme.

*As Community leader:*

- ◆ Announce that you place TB high on your Agenda
- ◆ Prepare a policy document describing your strategy for increasing access to effective TB treatment.

*As a Businessman, A Public Sector Company Manager, A Small Entrepreneur:*

- ◆ Fund a radio TB educational for days/ weeks and TB spots in local languages.
- ◆ Fund a comprehensive report on the TB situation locally and internationally for TV.
- ◆ Sponsor a major event on TB or TB & HIV in your corporation, your enterprise, your city.

*As an NGO, Or a trade Union:*

- ◆ Spread the message: "TB care is a human help".
- ◆ Use and publicize the document on TB and report access to care with groups acting on behalf of refugees, prisoners, children, and women's rights
- ◆ Speak out about health care needs with Trade Unions from the health sector.
- ◆ Promote workers awareness on TB and HIV through community events.

SAARC TB Centre in collaboration with TB control Programmes of Member Countries and International agencies like WHO and IUATLD is here to support institutions and individuals in order to generate community awareness about TB disease and facilities available to control Tuberculosis in the Region. School students, Journalists and Corporate sector have established partnership with SAARC TB Centre to fight out TB from our Region. We are in search of new partners to consolidate our strength to defeat TB.

**TB Control is a shared responsibility  
and  
We appeal to all of you to join us  
in our fight against TB and HIV/AIDS.**

# Role of the Microscopy Network in the NTP

Armand Van Deun, MD\*

## Summary

A preferment microscopy network is essential in any NTP for diagnosis and guidance of treatment. AFB-microscopy allows for highly accurate diagnoses to be made by paramedical personnel with very little training and using widely available, simple and multi-purpose equipment. About 95% of infectious cases can thus be detected. This is the most important group epidemiologically, and the one that needs to be treated most urgently considering individual prognosis. In high prevalence countries, smear-positive cases also constitute the majority of spontaneously presenting TB patients overall. This may still be true in HIV high-burden countries, but it becomes more difficult to find the bacilli that are often there in lower numbers.

Simple, clear-cut rules for follow-up of treatment have been based on microscopy results. However, their validity has not been well assessed in the case of smear-positivity at the foreseen end of intensive phase. And sparse existing data indicate that declaration of failure based on positive microscopy towards or at the end of short-course treatment may often be wrong.

The main problem in building a network consists of deciding on the degree of decentralization, which should strike a balance between accessibility, workload and quality assurance. The latter includes provision of good microscopes and quality stains to the peripheral centres, besides an efficient system of external quality control, preferably by rechecking of routine smears. In all but the smallest countries, these requirements can only be met when the intermediate level is sufficiently well developed.

In the area of follow-up of treatment, more research is needed towards optimal and more correct use of microscopy. The same is true for the strategies used very widely for diagnosis by smear microscopy, including the most appropriate cut-off for positivity and staining method. In this regard, it is essential to remember that the quality of microscopy depends to a big extent on the human factor, and thus indirectly on avoidance of overload.

## Introduction

A preferment microscopy network is essential in any National Tuberculosis Programme (NTP) for diagnosis and guidance of treatment. Acid-fast bacilli (AFB)-microscopy allows for highly accurate diagnoses to be made by paramedical personnel with very little training, and using widely available, simple and multi-purpose equipment.

The same cannot be said for other available techniques. Culture of mycobacteria will always remain a technique restricted to well developed laboratories, specialised or not, but which dispose of the necessary equipment and highly trained personnel. Moreover, the slowness of the traditional culture methods and the excessive cost of the slightly more rapid, modern commercial systems, render their use prohibitive except in areas of lower prevalence and often higher economical development. Radiology suffers mainly of a lack of specificity. Even when its use is restricted to trained medical officers, many diagnoses will be false and it is notoriously unreliable for follow-up of cases on treatment. Also diagnosis of recurrence based on radiology only remains doubtful. The place of radiology will thus be restricted to the second-line of diagnosis, in hospitals and used by medical

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officers for cases who stay negative on repeated smear microscopy.

It would be wonderful to dispose of a reliable serological test to diagnose active tuberculosis. But sadly, despite repeated surges of research, such a test does not yet exist. Considering the failure to improve sensitivity as well as specificity sufficiently by the application of new technologies, such as monoclonal antibodies and recombinant peptides, it seems unlikely that a test that is clearly better than microscopy will be developed soon.

The new generation of tests, using polymerize chain reaction and related molecular genetic techniques, have as yet not proven to be better than culture. Their great promise lies in speed, their great danger in false positive results through contamination. Apart from the last mentioned problem, which requires special facilities and extremely careful technicians, there is the obstacle of prohibitively high cost. It may still be too early, but so far it looks as if also these techniques will not be the answer for high-prevalence countries.

Which means that for the moment we are stuck with the old microscopy, and that we have to make the best of it. In what follows I will discuss the characteristics of AFB microscopy and remaining problems with its use, and indicate what can be done to set up a preferment microscopy network.

## **AFB microscopy and diagnosis of tuberculosis**

The main value of AFB-microscopy for diagnosis lies in its speed and extremely high specificity, while the main disadvantage is said to be its low sensitivity.

The speed is evident, and mainly

influenced by operational factors. This is an important aspect, for instance when considering different strategies for sputum collection. Excessive delays occur mainly in big, overloaded centres, which is a strong argument for an adequate level of decentralization of microscopy. Specificity is very high, probably over 99% in many high prevalence settings using trained personnel and good microscopes. Considering only the result "AFB", without consideration of species of mycobacterium, quality control by rechecking including resolving of discordant results typically indicates levels of false positives below 1%, corresponding to a specificity of over 99.75% even at a prevalence of positive smears of 20%. Besides proper equipment and a minimum of training, the threshold used to declare a smear positive is of prime importance in this regard. A few studies done in the sixties and seventies have shown that a finding of less than 3-4 AFB per smear often indicates a false positive. However, the threshold adopted first by IUATLD and now also by WHO is much higher, 1 AFB per 10 fields corresponding to about 30 AFB in the older studies (300 fields often being considered as a "smear"). It remains unclear why this ten times higher cut-off has been chosen, and if this choice is justified. As to lack of specificity for *M. tuberculosis*, the problem seems to be almost non-existing in TB high prevalence countries, including those with a serious HIV problem. As the most virulent species, TB will attack earlier than any of the others when it is present. This is shown in Table 1 below, showing some recent reports on mycobacteria identified in random series.

<b>REFERENCE / COUNTRY</b>	<b>HIV +</b>	<b>AFB PATHOGENS, NOT TB</b>
<b>Long, Haiti 1991</b>	<b>26%</b>	<b>4/199 patients (2/2 HIV +/-)</b>
<b>Githui, Kenya 1992</b>	<b>33%</b>	<b>0/320 patients</b>
<b>Warndorff, Malawi 1997</b>	<b>&gt; 50%?</b>	<b>2/904 patients (1/1 HIV +/-)</b>
<b>Van Deun, Bangladesh 1995</b>	<b>0%</b>	<b>0/647 patients</b>

As can be seen in the table, no mycobacteria other than *M. tuberculosis* were discovered in a tuberculosis drug resistance survey in Bangladesh. However, later on they were encountered sporadically in a few percent of specimens from patients from the same area, suspected of multi-drug resistant tuberculosis. Mainly *M. chelonae* and *M. avium* were cultured. Aspecificity of smear may thus be more of an inconvenience in this highly selected group of patients, usually having undergone already several episodes of treatment, and now seeming to fail or relapse because of surinfection of old TB lesion with opportunistic mycobacteria.

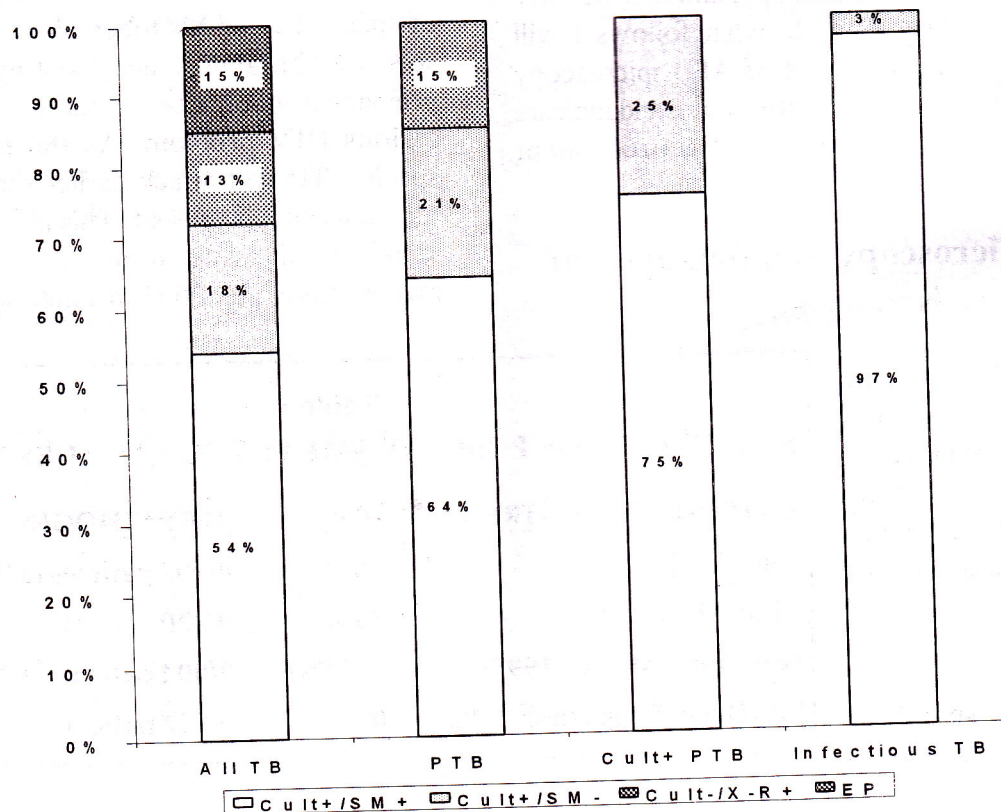
The (lack of) sensitivity of smear depends not only on the technique and care that is used in the examination, but also on the epidemiological situation and the context overall. In fact, it is a highly sensitive technique allowing to detect about 95% of infectious cases. This is the most important group epidemiologically, and the one that needs to be treated most urgently considering individual prognosis. In high

prevalence countries, smear-positive cases also constitute the majority of spontaneously presenting TB patients overall, since patients there tend to come for treatment rather late. Figure 1 below shows how this high sensitivity for infectious disease may relate to detection of pulmonary tuberculosis and of all types of TB in high-burden countries.

This diagram supposes that a high proportion (75%) of pulmonary cases positive in culture are also positive on smear. In low prevalence countries this is only about 50%, but some reports from high prevalence areas show rates even higher than 75%, as shown in Table 2 and 3. From these tables it appears that the rates vary considerably, depending partly on the earliness of case finding, partly also on the quality of smear as well as culture. The same trend is obvious comparing results reported from HIV-infested settings (Table 3). It thus seems still to be possible to obtain good results with microscopy in such countries, though it becomes more difficult to find the bacilli that are often there in lower numbers.

Figure 1:

**PROPORTIONS OF TYPES OF TUBERCULOSIS**



**Table 2:**

**OVERALL SMEAR / CULTURE POSITIVITY RATE**

<u>Reference / country</u>	<u>% smear + out of culture +</u>
Boyd and Marr, USA 1975	22 %
Marraro et al., USA 1975	24 %
Rickmann and Moyer, USA 1980	25 %
Urbanczik, Germany 1985	37 %
Burdash et al., USA 1976	43 %
Pollock and Wieman, USA 1977	50 %
MRC, England/Wales 1992	53 %
Kubica, Africa/Europe 1980	53 % (Ziehl Neelsen)
Kubica, USA/Asia 1980	63 % (fluorescence)
Petersen, Germany 1985	54 %
Blair et al., USA 1976	62 %
Levy et al., S.Africa 1989	66 % (serial sput.)
idem	54 % (first sputum)
Joseph et al., Indonesia 1976	68 % (fluorescence)
Alausa et al., Nigeria 1977	77 %
Neher et al., Nepal 1997	80 % (3 smears)

after Urbanczik 1985

**Table 3:**

**RATE OF MTB CULTURE+ PATIENTS FOUND SMEAR+**

<u>REFERENCE/COUNTRY</u>	<u>TECHNIQUE</u>	<u>ALL</u>	<u>HIV-</u>	<u>HIV+</u>
Klein, USA 1989	3-4 sputa, concentr., Kinyoun	81%	45%(AIDS)	
	same, first sputum		61%	29%
Long, Haiti 1991	2-3 morning		79%	66%
Githui, Kenya 1992	3 sputa, fluorescence		89%	89%
Githui, Kenya 1993	ZN staining	65%		
	fluorescence	80%		
Elliot, Zambia 1993	3 sputa?, direct, fluor.		76%	57%
Yajko, USA 1994	1 sputum, concentr., fluor.		55%	55%
Smith, USA 1994	3 sputa, concentr., fluor.		60%	57%
Allwood, Malawi 1997	1 smear, ZN, direct	43%		
Finch, USA 1997	many sputa, fluor. first sputum		71%	70%
			64%	55%
Johnson, Uganda 1998			98%	96%
Karstaedt, S. Africa 1998			79%	68%

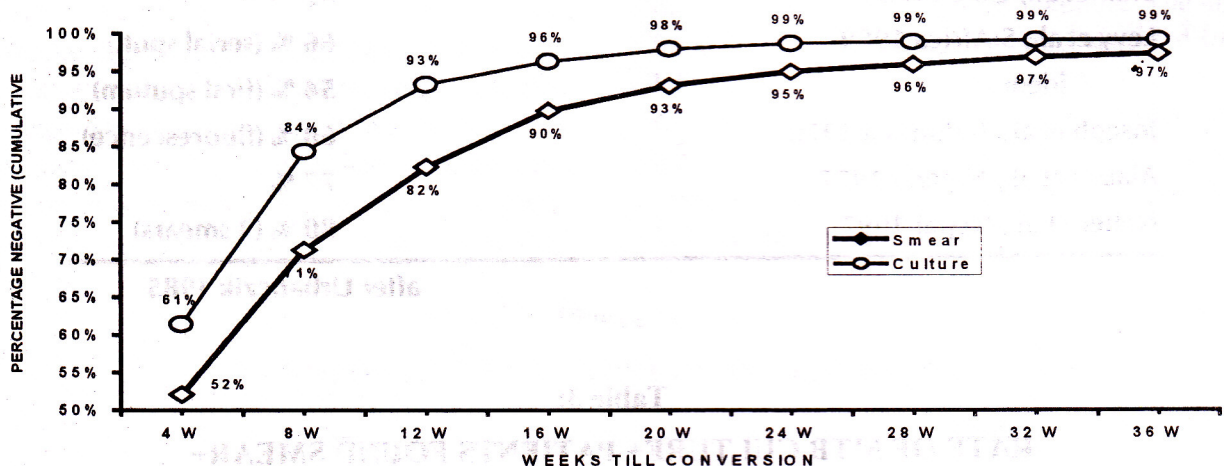
## AFB smear microscopy and follow-up of treatment of tuberculosis

Simple, clear-cut rules for follow-up of treatment have been based on microscopy results, which has made it easy to confide treatment using standard regimens to paramedical personnel. In general this has worked very well. However, the validity of these rules has not been well assessed in the case of smear-positivity at the foreseen end of the intensive phase of treatment, when this phase should be prolonged by one month if the patient remains smear-positive. Not so much this precaution, dating from the era when the second phase of treatment was based on isoniazid

From a few reports, it seems that declaration of failure based on positive microscopy towards or at the end of short-course treatment may regularly be wrong. This appears also from Figure 2. Microscopy cannot distinguish between live and dead AFB, so that some patients excreting non-viable bacilli at the end of the treatment may be wrongly considered as failure-cases. It would seem that this is bound to happen more often with shorter treatment courses and excellent microscopy.

Figure 2:

### CONVERSION IN SMEAR AND CULTURE OF INITIALLY SMEAR-POSITIVE PULMONARY TB



After Al-Moamary et al., British Columbia (Canada), 1988-1995. The treatment regimen consisted of INH and rifampicin for 6 to 8 months, supplemented with pyrazinamide during the first 2 months. Drug resistance levels were very low. Microscopy used concentrate smears and fluorescence technique.

plus a weak companion drug, but rather the workload and complexity it involves has been criticised by public health people. From the bacteriological point of view they might be right, since it is well known that in many patients, especially those with a high bacterial load initially, negativation in smear is preceded by negativation in culture, as shown in Figure 2 below.

Published data indicate that the failure rate is higher in patients who were smear-positive at the end of the first phase. However, it is not clear in how far this may also influence the relapse rate, and especially if the prolongation by one month has any beneficial effect.

### Building an AFB smear microscopy network

The main problem in building a network consists of deciding on the degree of decentralization, which should strike a balance between accessibility, workload and quality assurance.

The well-known rule of one centre per 100,000 population should thus be considered as a very rough average, meaning to say that not each and every existing centre has to be implicated for AFB-microscopy. Sparsely populated areas may need more centres, urban

concentrations can do with less centres that may then be better staffed, or equipped with a fluorescence microscope. Proficiency can often be maintained even in small centres seeing few positives. However, this will cost more in terms of training, equipment and efforts of quality assurance.

The latter includes provision of good microscopes and quality stains to the peripheral centres, besides an efficient system of external quality control, preferably by rechecking of routine smears. Numbers of slides to be rechecked are determined mainly by the number of centres covered, since a statistically sound sample size is almost the same for a centre with a turn-over of for instance 500 as for one with a turn-over of 5000 slides annually. Together with the increased effort needed for supervision, this exigency can make good quality almost impossible to assure with excessive decentralization.

In all but the smallest countries, the requirements for a microscopy network can only be met when the intermediate level is sufficiently well developed. To count on a central reference laboratory for training, supervision, quality control and provision of stains has usually proved to be an illusion. Though it remains the responsibility of the NTP together with such a central lab to assure guidance and coordination in these matters, the intermediate level will be needed for implementation. So far, the non-laboratory NTP supervisors have been little implicated. However, they are exquisitely placed, and in fact there is no reason, apart from lack of preparation, why they should be not be able to extend their supervision and related tasks also to the peripheral laboratories.

## Areas for research

Some questions with regard to smear microscopy have already been touched in the preceding paragraphs.

In the area of follow-up of treatment, more research is needed towards optimal and more

correct use of microscopy. A question that has been overdue for operational research for a long time, is the usefulness of the extension of the first phase of treatment in case of positivity at its foreseen end. At the same time, this should evaluate the necessity of this follow-up smear. Along the same lines, the definition of treatment failure needs to become more precise. Both points may include a revision of the threshold for positivity of a follow-up smear, which may very well be different from that of a diagnostic smear.

The strategies used very widely for diagnosis by smear microscopy have repeatedly been criticised in the recent literature, mainly the need to examine three samples. It would seem that also the justification of a spot-morning-spot series may need to be looked at, as well as the exigency of a second positive specimen to register a patient as a smear-positive case. The threshold for positivity of a diagnostic smear result has already been mentioned. It seems unnecessarily high now, considering the rarity of false positive results as well as the presumed lack of sensitivity of smears, especially in a HIV context. To my knowledge, the present cut-off is not based on hard data from operational or other studies.

The main shortcoming of microscopy, and the reason why many think that it should be replaced by a better test, is its relative lack of sensitivity in conjunction with the high workload involved. It is thus imperative to find out how microscopy should be used for maximum efficiency: how many fields and how many smears have to be examined for diagnosis and follow-up? how to interpret results, including definition of an appropriate cut-off? what is the most efficient staining method: hot or cold? optimal concentration of reagents? And, since this may constitute a huge effort, the gain brought along by regular, correctly applied external quality assurance should be assessed in various settings.



# ABSTRACTS

## TRAND OF HIV INFECTION IN PATIENTS WITH TUBERCULOSIS IN RURAL SOUTH INDIA

**S. Rajasekaran, Professor of Thoracic Medicine, Ind.J.Tub.2000, 47, 223**

### Summary:

**Setting -** Rural pockets of South Indian population, hitherto considered to be HIV "low prevalence zones".

**Objectives:** To find out the trend of HIV infection in pulmonary tuberculosis patients in the rural areas and to evaluate the clinical profile of tuberculosis patients with HIV infection.

**Design:** HIV seropositivity was assessed among 510 bacteriologically radiologically and/or histopathologically confirmed tuberculosis patients attending the Department of Thoracic Medicine, Govt. Raja Mirasudar Hospital, Thanjavur in 1996. The findings of 1996-sentinel surveillance were compared with a similar repeat surveillance survey done in 1999 among 45 confirmed tuberculosis patients.

**Results:** HIV seropositivity rate among 510 tuberculosis patients in 1996 was 0.59% of the 405 patients screened in 1999, 36 patients (8.89%) were HIV seropositive. Disseminated tuberculosis (30.6%) and variable/mixed radiological patterns were observed in the 1999 survey.

**Conclusion:** This prospective study suggests that HIV infection is rising sharply in pockets of rural south Indian population.

**Key words:** HIV and TB; Trend of HIV infection & disease; profile of TB patients with co-infection.

## CIGARS, YOUTH AND THE INTERNET LINK

**Ruth E. Malone, Am J Public Health. 2000;90:790.**

**Objectives:** This study examined the accessibility and appeal to youth of cigar marketing sites on the Internet.

**Methods:** Sites marketing cigars (n=141) were examined for age restrictions, prices, health warnings, and other elements.

**Results:** Although it is illegal for minors to purchase tobacco, only 36 sites (25.5%) prohibited purchases by minors. Site offered low prices, and 32% accepted money orders, cashier's checks, or cash-on-delivery (COD) orders. Almost 30% of the sites included elements with potential youth appeal; only 3.5% displayed health warnings.

**Conclusions:** The unregulated promotion of cigars on the Internet has the potential to attract youth, and there are few barriers to Internet tobacco purchases by minors.

## BEHAVIOUR PROFILE OF TUBERCULOSIS PATIENTS IN PRIVATE CLINICS

**Sanjay Juvekar – Ind. J. Tub. 1998,45,95**

**Summary:** The objective of the study was to prospectively study help seeking patterns and treatment behaviour of patients of pulmonary tuberculosis diagnosed in the clinic of private medical practitioners.

In spite of the presence of a prominent and growing private health sector, little information is available in India on tuberculosis patients at

tending private practitioners' clinics. Knowledge about patients in private clinics – the way they are diagnosed, the treatment and advice they receive, their shopping habits and their adherence to treatment, could greatly help in devising strategies to encompass private doctors and their patients in the National Tuberculosis Programme.

The study was conducted in a large slum in the city of Bombay and rural areas of Pune district of Maharashtra. One hundred TB patients newly diagnosed in 52 participating rural private practitioners' clinics and 73 diagnosed by 31 participating private doctors practitioners in the urban slum were followed up prospectively and interviewed by paying visits to their homes once every two months for a period of one year. Relevant information was collected on each visit. Not more than five patients from each private doctor were included in the study.

The study reveals that patients of tuberculosis in private clinics shop around before they are diagnosed. Almost always, they first seek help from a private practitioner and about half of them are diagnosed at the first source of help itself. On an average, there is a delay of about 2 months between the onset of symptoms and diagnosis of tuberculosis. Significantly, over three-quarters of all the patients in private clinics are not subject to sputum examination at all, the reliance being always on an X-ray of the chest. All the patients in private clinics always receive a variety of chemotherapy regimens, many of which are inappropriate. The treatment adherence rate of patients who remain with the private sector is around 55 percent without a significant rural urban difference.

Considering that more tuberculosis patients seek help of private practitioners than report to public health services, the study findings prompt the urgent need to provide educational and regulatory input, where necessary, to both practitioners and patients in

private clinics, establish and strengthen links between them and the National Tuberculosis Programme and ensure that their inappropriate behaviour and practices do not hinder national efforts to control tuberculosis.

### **FEMALE GENITAL TUBERCULOSIS – A RETROSPECTIVE STUDY**

**A. K. Chakrabarti – Reader,  
Department of Pathology and  
Microbiology, Calcutta National  
Medical College & Hospital –  
Ind. J. Tub. 1998, 45, 101.**

**Summary:** Clinico-pathological aspects of 116 cases of female genital tuberculosis were reviewed retrospectively. In all, 90 cases showed typical tuberculous granuloma and the remaining 26 cases showed atypical forms (22.4%). The largest number of patients was in the twenties (47%) and the least in the age group fifty years and more. Infertility was the commonest clinical presentation (52%). Endometrium-cervix specimens were the commonest among specimens sent for pathological examination.

### **TUBERCULOSIS OF BREST – A RETROSPECTIVE REVIEW OF CASES**

**Dilip Kumar Pal – RMO, cum Clinical  
Tutor, Department of Surgery, North  
Bengal Medical College, Sushrutanagar,  
Darjeeling –  
Ind. J. Tub. 1998, 45,35**

**Summary:** In a ten year retrospective study of breast tuberculosis, seven cases were found to have been treated for breast tuberculosis at the North Bengal Medical College Hospital during 1986 to 1996. Due to nonspecific symptomatology and vague physical signs, most of the patients were diagnosed after histopathological examination. Conservative surgical approach followed by anti-tuberculosis therapy led to cure in all the cases.

## **MULTI-DRUG RESISTANT PULMONARY TUBERCULOSIS**

**Harendra Thakker – Department of  
Respiratory & Chest Medicine, Jaslok  
Hospital and Research Centre, Mumbai  
– Ind. J. Tub. 1998, 45, 131**

**Summary:** Drug resistance has emerged as a major cause of failure of anti-tubercular therapy. The risk of infection with resistant mycobacteria is increasing, posing a threat to control and eradication of this disease. The main reasons for emergence of drug resistance in India are erratic drug ingestion, monotherapy, omission of one or more prescribed agents, suboptimal doses and poor drug absorption. Anti TB drugs are also freely available in the market, which leads to self-treatment and improper regime. Unless effective steps are taken to treat and limit resistance, it may soon assume alarming proportions. Planned and supervised therapy with adequate follow-up is the only way to ensure care of the patient and prevention of the spread of drug resistance.

## **REVISED NATIONAL TUBERCULOSIS CONTROL PROGRAMME: AN URBAN EXPERIENCE**

**Sunil Bhat – Senior Research Officer,  
LRS Institute of Tuberculosis and Allied  
Diseases, New Delhi –  
Ind. J. Tub. 1998, 45, 207**

**Summary:** Under the National Tuberculosis Programme in India, treatment completion rates of only 30% to 40% were achieved, using the standard chemotherapy regimens. This was particularly difficult to achieve in the bigger cities because of no primary health care delivery system there. This shortcoming was addressed with the introduction of the Revised National Tuberculosis Control Programme and the use of short course regimens under the DOTS strategy.

A part of the domiciliary treatment area of the LRS Institute of Tuberculosis & Allied diseases was used to test the feasibility of the DOTS strategy in an urban setting.

The study lasted from October 95 to September 97. It was found that case-finding went up to 70% of the "estimate"; the smear positive to smear negative ratio among the newly discovered cases was 2:1. Sputum conversion among new smear positive cases was nearly 81% and the cure rate was 80%.

## **TUBERCULOSIS SCREENING AND COMPLIANCE WITH RETURN FOR SKIN TEST READING AMONG ACTIVE DRUG USERS**

**C. Kevin Malotte – Centre for  
Behavioural Research and Services,  
California State University –  
Am J Public Health 1998; 88; 792**

### **Objective:**

This study assessed the independent and combined effects of different levels of monetary incentives and a theory-based educational intervention on return for tuberculosis (TB) skin test reading in a sample of active injection drug and crack cocaine users. Prevalence of TB infection in this sample was also determined.

### **Method:**

Active or recent drug users (n=1004), recruited via street outreach techniques, were skin tested for TB. They were randomly assigned to 1 of 2 levels of monetary incentive (\$5 and \$10) provided at return for skin test reading, alone or in combination with a brief motivational education session.

### **Results:**

More than 90% of those who received \$10 returned for skin test reading, in comparison with 85% of those who received \$5 and 33% of those who received no monetary incentive. The education session had no impact on return for skin test reading. The prevalence of a positive tuberculin test was 18.3%.

### **Conclusion:**

Monetary incentives dramatically increase the return rate for TB skin test reading among drug users who are at high risk of TB infection.

**SMOKING IN THE HOME:  
CHANGING ATTITUDES AND  
CURRENT PRACTICES**

**Mary Jane Ashley, MD – Ontario Tobacco Research Unit, Centre for Health Promotion, University of Toronto – Am. J. Public Health, 1998;88:797.**

**Objectives:**

Trends in attitudes and current practices concerning smoking in the home were examined.

**Methods:**

Data from population based surveys of adults in Ontario, Canada, were analyzed.

**Results:**

Between 1992 and 1996, the percentage of respondents who agreed that parents spending time at home with small children should not smoke increased from 51% to 70%. In 1996, 34% of the homes surveyed were smoke free. Smoke free homes were associated with nonsmoking respondents and with the presence of children and no daily smokers in the home. Only 20% of homes with children and any daily smokers were smoke-free.

**Conclusions:**

Efforts are needed to assist parents in reducing children's exposure to environmental tobacco smoke in the home.

**COST EFFECTIVENESS OF A  
COMMUNITY LEVEL HIV RISK  
REDUCTION INTERVENTION:**

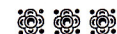
**Steven D. Pinkerton, PhD – Centre for AIDS Intervention Research, Department of psychiatry and Behavioural Medicine, Medical College of Wasconsin, Milwaukee – Am J Public Health, 1998;88:1239.**

**Objectives** – The authors evaluated the cost-effectiveness of a community level HIV prevention intervention that used peer leaders to endorse risk reduction among gay men.

**Methods** – A mathematical model of HIV transmission was used to translate reported changes in sexual behaviour into an estimate of the number of HIV infections averted.

**Results** – The intervention cost \$17,150 or about \$65,000 per infection averted, and was therefore cost saving, even under very conservative modeling assumptions.

**Conclusions** – For this intervention, the cost of HIV prevention was more than offset by savings in averted future medical care costs. Community level interventions to prevent HIV transmission that use existing social networks can be highly cost-effective.



***Proposed Programme***

- ◆ Meeting to formulate guidelines for migratory population in TB and HIV/AIDS control – June-July 2001.

**New Publications of SAARC Tuberculosis Centre during the year 2000**

1. General Information on TB and its Control in Member Countries (English and Nepali version separate).
2. Proceeding Report of Seminar for Compilation and Updating of Advocacy and IEC Material relating to TB and HIV/AIDS Control.
3. Role of School Students in TB Control.
4. Special Issue of STC Newsletter on the occasion of World TB Day 2000.

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