EDITORIAL

Directly Observed Therapy-Short Course Future of Tuberculosis

K. C. Mohanty

When centenary of Robert Koch's discovery of tubercle bacilli was in progress in 1982, the world was expecting to achieve Global Tuberculosis (TB) Control by 2000 A.D.

With the advent of HIV infection the clinical TB graph started rising alarmingly. In United States around one lakh extra cases were detected from 1985 to 1987 than the projected expected figure.

In sub- Saharan Africa, the clinical TB graph went up between 100-300 percent.

TB has been neglected as a public health issue for many years by many countries. TB remains the major cause of death from a single infectious agent among adults in developing countries. There has been resurgence of TB in the industrialised world. Several factors , most notably lack of resources and government commit, have prevented adequate implementation of control measures. In many industrialised countries, recent increase in TB is largely due to cases among immigrants from other countries, a further consequence of global neglect.

The key to controlling TB now is the rapid detection and cure of infectious cases by TB programmes. In 1999, the World Health Assembly (WHA), recommended that each NTCP (National TB Control Programme) should work towards two objectives by the year 2000.

1. To treat successfully 85% of detected smear +ve cases and
2. To detect 70% of all such cases.

In 1993, the WHO declared TB to be a global emergency. Declaring Global Emergency, as above alone, will not solve the problem. The crux of failure of TB control programme was :

(a) lack of finances

(b) lack of commitment by the policy makers

(c) lack of urgency to achieve control and

(d) lack of compliance

There was urgent need in 1993 to design a policy and methodology which will remove all these lacunae.

Daily therapy is excellent, however it is expensive and not suitable for supervised therapy The success of intermittent chemotherapy was first reported from Tuberculosis Research Centre (TRC) Chennai, where biweekly regimen of Streptomycin (SM) and isoniazid (INH) has proved to be as successful as the daily regimen of INH and Para-amino salicylic acid (PAS).

Intermittent short course chemotherapy (SCC) studies were conducted after introduction of short-course chemotherapy in 1972 at TRC by British Medical Research Council (BMRC) at Hongkong, Africa and

From the Department of Tuberculosis and Chest Diseases, K. J. Somaiya Medical College, Mumbai-400 022.
Correspondence to : Dr. K. C. Mohanty, Professor and Head, Department of Tuberculosis and Chest Diseases, K. J. Somaiya Medical College, Mumbai-400 022.

Singapore which proved to be equally successful, less expensive, and less toxic.

To achieve global TB control, WHO recommended intermittent chemotherapy as the non-cost effective TB control programme. They categorised TB patients into 3 categories and recommended the regimens for global use.

The categories are :

I Sputum +ve cases of TB or Sputum –ve but seriously ill patients e. g. TB meningitis, Abdominal TB., Spinal TB., Bilateral Pleural effusion.

II Patients who are defaulters in treatment or cases of treatment failure and relapse.

III Sputum AFB –ve with limited parenchymal involvement or non-serious forms of extrapulmonary TB. e. g. TB lymph node.

Treatment as per categories (Cat.) are as follows :

Cat. I 2 (EHRZ) 3
4 (HR) 3

Cat. II 2(SHERZ) 3
1(EHRZ) 3
5(HR)3

Cat. III 2 (HRZ) 3
4 (HR) 3

where, streptomycin (S) isoniazid (H) ethambutol (E) rifampicin (R) pyrazinamide (Z).

Compliance and drug defaulting is a major problem as no TB cure can be achieved below 6 months of treatment even with SCC.

To overcome this, Directly Observed Treatment-Short Course (DOTs) was designed. The methodology was first implemented at New York then followed in various centres in Africa, Phillipines, China and India. It has proved to be the most cost effective.

The sputum conversion varies between 90-95% and the cure rate between 75-95%. In India , the cure rate is 85%.

Practically, there has been global implementation of the DOTs programme with financial assistance from the World Bank and from the economically big and developing countries.

All the National Government heads have been signatories to implement DOTs programme. The success of DOTs can be assessed in financial term in India from the fact that we are losing around 46000 crores annually due to TB and as per Nationwide implementation of DOTs will result in saving 20000 crores in the very first year .

EFFECTIVITY OF DOTs

DOTs and HIV	DOTs is effective in curing TB in one who is HIV-ve
DOTs and women	DOTs can allow women to be treated successfully near their homes.
DOTs and children	DOTs not only saves children's lives, it also keeps family healthy.

DOTs is a five point programme which can ensure effective TB control if all 5 components are implemented. They are :.

(1) Political and Administrative support.
(2) Diagnosis by sputum microscopy in patients attending health facilities.
(3) Good drugs for short course chemotherapy.
(4) Directly observed treatment which should be accessible, acceptable and accountable.
(5) Systematic monitoring and accountability.

DOTs IS THE CURE - But what is the ACCEPTABILITY ?

It has been reported in various centres in India that only 30% of the cases accept DOTs as–

(a) they have to make frequent visits to the treatment centre.

(b) category II does not provide more than 60% success rate in drug resistance cases.

The solution for this is–

(a) There is need for another category which will take care of drug resistance cases in India.

(b) The supervising part of the drug administration should be decentralised and neighbours, social workers, even the family members should be initiated as treatment organisers. The visit to the TB treatment centre should be once in 2 weeks as 70% of the patients are being treated by non government medical practitioner. They are not benefitting from the DOTs programme. Hence, two types of treatment are being administered at government and non government organisations.

One of the Indian Pharmaceutical houses have marketed WHO "Calendar packing" for all WHO categories of TB patients with reduced number of tablets for daily consumption by using fixed dose combination. With its introduction non government doctors can also administer a DOTs regimen to their patients.

This will result in–

(a) uniform treatment in both public and private set up.

(b) less expensive

(c) less toxic

(d) resources could be utilized to treat more number of patients and

(e) emergence of drug resistant bacilli will be less.

There is need for WHO recommended regimens of "calendar packing" for all WHO categories of TB patients with reduced number of tablets for daily consumption by using fixed dose combination.

We have adopted the attitude of "Chalta Hai" for tuberculosis control.

It is shocking that 6 lakhs people are dying every year due to tuberculosis and financial loss of 50,000 crores annually.

When 287 people died due to plague in Surat city and Maharashtra the entire machinery of Health Ministry worked in unison to contain the spread of the epidemic. Surat city, which was one of the dirtiest, is today one of the cleanest city in the India. If this can be achieved why not tuberculosis control ?

Nobody is safe today from tuberculous infection due to rapid transport system and movement of the population.

If we cannot control TB which is the main cause of death in HIV patients, by 2010 we will have zero growth of population and by 2015 there will be negative growth of the population eliminating almost 25% of the productive age population between the age of 20-50 as it has occurred in sub saharan Africa.

Let us now shed the "Chalta Hai" attitude and adopt "Nahi Chalne vala" and "Do or Die" attitude as our soldiers had adopted for Bangladesh war in 1971 leading to creation of new nation. Let us follow their steps and create a new nation free of tuberculosis. We have to emulate their determination and courage to achieve control of tuberculosis.

Let us put our best foot forward to achieve tuberculosis control at least by 2005 A.D.