Tuberculosis has been a major health problem for developing countries including India. In the first half of the last century tuberculosis was the main focus of attention amongst all respiratory diseases. The nationwide survey by Indian Council of Medical Research in the late 50's (1955-58) had shown an average prevalence of sputum positive pulmonary tuberculosis of about 400 per 100,000 populations amounting to an absolute number of 1.5 million infectious cases at that time with similar prevalence rates in rural and urban areas. Unfortunately, we do not have the latest nation-wide data after this report nearly 50 years ago although scattered confined regional data is available off and on. Disease surveys conducted in different parts of the country since the 1950s have reported prevalence of smear-positive pulmonary TB (PTB) of 0.6-7.6 per 1000 population, culture-positive TB of 1.7-9.8 and culture and/or smear-positive TB of 1.8-12.7. The incidence of smear-positive PTB has been observed in the range of 1.0-1.6/1000 and that of culture-positive PTB 1.0-2.5/1000 in the limited number of studies carried out. The annual risk of tuberculous infection (ARTI) had been estimated at 1-2% for most of the tuberculin surveys carried out in different areas over different time periods. During a nationwide study in 2000-2003, the average ARTI in the country was estimated at 1.5%. An increasing trend has been observed in human immunodeficiency virus (HIV) seropositive cases, which has been found to vary between 0.4% and 28.8% in different studies conducted mostly at tertiary health care centers. The proportion of new cases with multi-drug resistance (MDR) was relatively low, at 0.5-5.3%. However, the proportion of MDR cases among previously treated cases varied between 8% and 67%. One recent report suggested that the estimated number of bacillary cases was 3.8 million, abacillary cases 3.9 millions, and extra-pulmonary cases to be 0.8 million with a total burden of tuberculosis in India being about 8.5 million for 2000. The present estimates differ from earlier estimates. India accounts for nearly 20% global tuberculosis burden even today. We had failed miserably in controlling tuberculosis through the National tuberculosis Programme started in the early 60's. When reviewed in 1992, no major epidemiological impact was shown to be made. The tuberculosis control strategy was revised after nearly thirty years in the form of Revised National Tuberculosis Control Programme (RNTCP) in 1993 tested as a pilot project with expanding programme in 1998 when the Government of India implemented the TB control strategy known as DOTS, adapted for the Indian context. By the end of March 31, 2006, the whole country was covered under RNTCP and interim reports suggest that we are achieving the target of 80% cure rate and 70% case detection rates. The strategy is further strengthened by the participation of medical institutions and the public private partnership.

However, there are some worrying points which need to be taken note of. HIV continues to spread and the disastrous AIDS and TB epidemics in “new-wave” countries like India are to be kept in mind. In many countries of East and southern Africa, tuberculosis (TB) notification rates have increased by five or more times as a result of the HIV epidemic. If this were to happen in India, which accounts for 20% of the global burden of TB, the total number of TB cases in the world would more than double. At present, <1% of Indian adults are infected with HIV, but that is about the five million people, second only in number to South Africa. It has been suggested that the prevalence of HIV infection in Indian adults could reach 5%, or approximately 25 million people, and an HIV epidemic on this scale would have severe consequences for...
the burden not only of AIDS but also of TB\textsuperscript{11}. The impact of HIV/AIDS on the control of tuberculosis in India was examined in a mathematical model by Williams et al\textsuperscript{11}. They investigated whether in the face of the HIV epidemic, the RNTCP could halve TB prevalence and death rates in the period 1990-2015, as specified by the United National Millennium Development Goals using a mathematical model they captured the spatial and temporal variation in TB and HIV in India. They predict that without the RNTCP, HIV would increase TB prevalence by 1\%, incidence by 12\%, and mortality rates by 33\% during this period. However, with the current success of RNTCP, they predicted substantial reductions in prevalence by 68\%, incidence by 41\% and mortality by 39\% during this period. Further, they predicted that in India, 29\% adults but 72\% of HIV positive adults live in four large states in the south where, even with the RNTCP, mortality is expected to fall by only 15\%. At the National level the RNTCP should be able to reverse the increases in TB burden due to HIV but to ensure that TB mortality is reduced by 50\% or more by 2015. Antiretroviral therapy in addition to the recommended treatment for TB is very essential to arrest this trend. Even if there is optimism about the success of DOTS there are many other issues that need to be answered\textsuperscript{12}. In fact a recent estimate of the average annual risk of tuberculosis infections (ARTI) in four defined zones in the country showed the prevalence to be more than 1 percent in all zones (Southern Zone 1-1.1%; eastern zone 1.3%; Western zone 1.6-1.8%; and north zone 1.9\%). The proportion of infected children was found to be significantly higher in urban than in rural areas in all zones. As ARTI is a very sensitive index of tuberculosis control in the community, intensified control programme efforts need to be sustained for many years, and hence, there is no scope for compliancy\textsuperscript{13}. Even if the targeted 70\% case detection and 85\% cure rates have nearly been achieved at the National level many states (nearly 20 in number) do not fulfill both these targets. All these states need to be brought within the success targets. A recent review has shown that the programme excludes some of the most vulnerable group from the best available care. Further, in some part of the country nearly a quarter of patients who were recorded having received DOTS did not actually receive it\textsuperscript{12}. Further, it is to be realized that even if we achieve a case finding rate of 70\% and cure rate of 85\%, of the 100 patients of tuberculosis in the community we are actually curing 59 patients. What about the remaining 41\% of the cases in the community? As the distribution is not uniform through out the country, there will be large deviation from this figure at different parts of the country. Then we have the problem of drug resistant cases that have either failures from a non DOTS therapy and some from the DOTS therapy, particularly the Cat II patients. Most of them will be again MDR cases besides resistance to one or more other anti tubercular drugs. The problem of XDR TB is emerging very fast which is virtually untreatable and spreading all over the world including India\textsuperscript{14}. Given the problems of number of drugs to be used, their cost, adverse effect, the duration of therapy and accessibility of treatment, this group is going to pose a big problem for the RNTCP in particular and the community at large. The best way is to prevent the development of drug resistance from the very beginning by broadening the RNTCP network and to catch the large number of such people (100\% coverage) and by case holding. While, our main focused should not be deviated from the RNTCP and its sustainability, we have to also take care of this large number of resistant cases who are the reservoirs for future development of disease, particularly the resistant form. One more area that needs to be taken care of is the after care of the patient cured of tuberculosis. If we accept the definition of health as "not merely the absence of disease", which at present is the sputum negativity in case of pulmonary tuberculosis, we need to take care of patient with residual disability because of fibrosis and cavity, so that quality of life is not compromised. A large number of these patients need to be rehabilitated in form of their post treatment residual symptoms, and respiratory disability. Even after treatment and sputum negativity, they are prone to various complications of tuberculosis like haemoptysis, respiratory infections, functional disability, respiratory failure, and cor pulmonale. As respiratory physicians we should take care of these problems also. Therefore, a full fledged rehabilitation programme needs to be built in to the system for the benefit of these patients. Thus to have an impact on the epidemiology of tuberculosis the current programme needs to maintain high case detection and success rates for decades to continue. We must continue with the full commitment and enthusiasm which need to be maintained through
out. Phase II of the RNTCP is a step towards achieving the TB-related Millennium Development Goal (MDG) targets to decrease mortality and morbidity. We have to further increase the access of services to marginalized groups, patients in hard-to-reach areas through continuation of all activities with intensive monitoring, supervision and evaluation. The new activities proposed in RNTCP are the scaling up of the State level intermediate referral laboratories (IRL), capacity for nation wide implementation of external quality assessment (EQA) of sputum smear microscopy services and provision of culture and drug sensitivity testing. Implementation of DOTS plus for MDR TB cases should be started sooner then later otherwise the time is going to be out of hand and we may watch as silent spectators. The TB control should be part of the curriculum at the undergraduate as well as at the postgraduate level in this country. The aim should be to provide standardized good quality service in a patient friendly environment. The programme must strengthen inter-sectoral collaboration involving medical colleges and conducting need based, focused and people centric Information, Education and Communication (IEC) activities.

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REFERENCES