Editorial

Global Tuberculosis Control - Where do we stand?

According to WHO, Tuberculosis is a worldwide pandemic. One third of world population is infected with TB bacilli. In spite of the newer modalities for diagnosis and treatment, TB continues to be a major public health problem world over. Tuberculosis is one among the three top killer diseases - HIV/AIDS kills three million people, TB kills two million and Malaria kills one million every year.[1-10]

Africa and Asia account for the majority of TB cases in the world. It is estimated that among the 15 countries with highest TB incidence, 13 are in Africa. Again half of all new cases in the world are shared by the Asian countries like, Bangladesh, China, India, Indonesia, Pakistan and Philippines.

Attempts for TB control were started by countries world over for many years and were able to achieve some success. Tuberculosis burden was decreasing in industrialised countries even before effective chemotherapy was introduced, with reductions in the rate of infection from 10% to 1%. Introducing effective chemotherapy in the 1950s consolidated the trends in improved TB control. The greatest setback for these attempts accorded with emergence of HIV infection in many countries by 1990.

WHO declared TB as a global emergency in 1993. As per the WHO global Tuberculosis report 2012, the Millennium development goal (MDG) target to halt and reverse the TB epidemic by 2015 has already been achieved. Incidence of new cases of TB have been falling since 2006 and the rate of fall in new TB cases in 2011 was 2.2% . The mortality rate has decreased 41% since 1990 and is aiming towards a reduction of 50% by 2015. Mortality and incidence rates are falling in all the WHO's six regions and in most of the 22 high burden countries. But still the global burden of Tuberculosis is high. Globally 5.8 million new cases were diagnosed in 2011. India and China account for approximately 40% and Africa accounts for 24% of total notified cases of TB in the world. Treatment success rate is 85% for new cases, but it is only 74% in European region. The number of notified MDR- TB cases is increasing. India and China are having the largest number of cases.[13]

Various activities are going on world over towards TB control. In India after the failure of the National Tuberculosis control programme (NTCP), the revised national tuberculosis control programme (RNTCP) was established. RNTCP with the DOTS strategy has great achievements in Tuberculosis control. Today India's DOTS programme is the fastest expanding and the largest programme in the world in terms of patients on treatment, and the second largest in terms of population coverage.[14] RNTCP is targeting 90% case detection and 90% cure rate. India has achieved about 70% case detection and more than 85% cure rate. In May 2012 Tuberculosis was made a notifiable disease in India, which is a landmark step towards Tuberculosis control.

WHO joint monitoring mission (JMM) has lauded the Govt. of India for its efforts in TB control. The govt. of India has endorsed the National strategic plan (NSP) for TB control (2012 - 2017). NSP has set the goal of universal access to early diagnosis and effective treatment.

If implemented properly NSP can save up to 750,000 lives over the next five years. JMM also recommends

Case finding access to community level

Focusing on risk groups

Notifying all- diagnosed cases.

Drug Sensitivity Test for all patients.

Making DOT more patient friendly

Alternate methods for monitoring treatment adherence.

The China Tuberculosis Control Project was the largest Tuberculosis Control Project funded by the World Bank. In this project 94.2% of patients with TB had completed treatment and 93.8% were cured.

By 2002, China had one of the highest "TB burden in the World" after India and was facing particular challenges in MDR TB and HIV-TB co-infection. Some parts of China were among the areas with the highest rates of MDR-TB in the world.

In 1980's health financing in China became decentralized. The Govt. spending on health decreased substantially, and out of pocket spending increased. One survey showed that 37% of TB patients were unable to seek medical help because of financial difficulties and many TB patients became poorer because of the treatment cost.[16]

The TB control project of China covered 16 provinces and it focused on the poor, and adopted the DOTS strategy. The project reduced TB associated deaths by 770,000 and prevented 20 million from being infected. The project exceeded the case detection target of 70% and the cure rate exceeded 85%. Eventhough the project achieved its objectives, TB control remains a major long term public health challenge for China.

In Pakistan the National TB Control Programme and youth has been a strong partner in the fight against TB for last many years. The orientation sessions among youth on TB related issues like TB-HIV and MDR-TB help them to build capacity in TB control activities.

South Africa's rate of Tuberculosis has increased over the last 20 years. Now it is the third highest TB burden country in the world. TB control programme has focused on passively presenting cases. While outcomes for notified TB cases have improved, this strategy failed to contain the TB epidemic. South Africa has the highest per capita risk of TB disease and has the highest TB transmission rates. South Africa's TB notification shows a fivefold increase in TB cases over the last 20 years. About 40% of the notified cases were HIV tested, of which 73% were positive. While effective case management is necessary for TB control, it alone was however insufficient for TB control in scenarios such as South Africa, with a high source of infection, high proportion of latent TB infection and a generalized HIV epidemic. In European region the TB notification rates have been decreasing since 2005, indicating a lower incidence. Despite this, the TB notification rates for the new and relapsed cases in the 18 high priority countries, all from the central and eastern part

of the region, remained almost eight times higher than in the rest of the region. Over the last 5 years the treatment success rate continued to decrease, falling from 72.5% and 50% in 2005 to 68.5% and 47.6% in 2010 in new and previously treated cases respectively.[15]

Even though the TB incidence is decreasing, the drug resistant TB is becoming a major concern in this region. The prevalence of drug resistant TB among new cases was 13.7% in 2010, a slight increase on 2009 (12%). MDR-TB among treated patients also increased to 48.7% in 2010 from 47% in 2008. The majority of TB- HIV co infected patients (85.6%) notified were in the eastern region and it increased from 3.4% in 2008 to 5.5% in 2010.[15]

The incidence of Tuberculosis is declining in USA for the last 20 years and the present incidence is 3.2 cases per 100,000 populations. The TB rate in foreign born persons is 11.5 times as high as US born persons. Asians had the highest TB case rate among all the ethnic groups.

Reaching the Target for TB Control:

In 1991 the 44th World Health Assembly set two targets to be reached by 2000- 70% case detection and 85% treatment success rate.[1,2]Achieving these targets the TB incidence would reduce 10% per year.[3-6] By 2000, 148 countries had adopted WHO DOTS strategy and 27% of global TB cases were being treated in DOTS programme. But it became clear that the target would not be met by 2000 and the date was deferred to 2005.

To reach the target the "Stop TB" Partnership was launched in 2001-2005.[3] Between 1990 and 2004 the global prevalence decreased from 297 to 229 per 1,00,000.[7] By July 2005 more than 36 projects managing MDR- TB was initiated with more than 1,00,00 patients treated in more than 27 countries.[4]

Strengthening TB laboratory capacity will improve the ability to diagnose MDR and XDR TB. This will help to achieve global targets in those countries like Africa and Eastern Europe, where MDR TB is the major deterrent preventing the TB Control Programme to achieve the target.

By the end of 2003, 29 out of 41 countries with high HIV-TB had a national policy for collaborating TB and HIV programme.[4,10] By 2006 the case detection reached 59% in more than 57 countries and treatment success reached 84% in more than 60 countries. However only 25 countries achieved the 1991 World Health Assembly targets for TB control. By late 2006 the global TB epidemic was at the threshold decline. But Africa and Europe were lagging behind with treatment success rate of 72% and 75% respectively.[7]

Problems in TB control:

Many factors affect the effective control of Tuberculosis globally. Neglect of TB control by governments, lack of resources for supervision, weakened health systems and poorly managed TB control programmes are few factors contributing to ineffective control. Poverty, population growth, increase in MDR & XDR-TB, increasing HIV associated TB and lack of newer diagnostic tools are other factors which hampers the progress of TB control.

TB - HIV collaborative activities are improving, to save more and more patient lives. Newer diagnostics like Xpert MTB/ RIF are being widely used for rapid diagnosis. Newer drugs for drug sensitive and MDR -TB are under research. Many new or re-purposed anti TB drugs are on clinical trials. About 11 vaccines for Tuberculosis are on developmental stage. Results of two phase 3 trials of 4 month regimens are expected shortly[13].

Regimens of shorter duration for MDR TB are also under trial. Measures like strict notification of the disease; proper monitoring of treatment, developing newer drugs, regimens and vaccines may make Tuberculosis control a reality in near future.

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