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TUBERCULOSIS CONTROL IN PAKISTAN: REVIEWING A DECADE OF SUCCESS AND CHALLENGES

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Abstract:

The cases of tuberculosis (TB) expanded at an exponential rate from 11050 in 2000 to 248115 in 2008. This drastic rise in cases turned the attention of medical specialists towards this issue and TB patients have been cared and treated since 2001 at the success rate of 91% in 2007. This paper encompasses the strategic decisions and infrastructure improvements that lead to successful coverage of the disease like implementation of DOTS coverage, effective drug management systems, expanded laboratory network, improved communication strategies, private participation, government initiatives on ground bases, and TB control programme in hospitals through private-public participation mix strategy.

Moreover, this paper also highlights the challenges faced in expanding the TB control within private sectors and parastatal health care institutions. There are still many challenges that need to be carefully administered to fully control tuberculosis in the society.

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INTRODUCTION:

Almost 2 million people lose their lives due to tuberculosis every year. A study has shown that tuberculosis is the second most common cause of death by infectious diseases. An average of 8 million new TB cases are reported every year, out of this 80% are those people who belong to the economically productive age groups. This issue poses a serious economic burden upon the countries and individuals. [1]

In 2008, the estimated incidence in Pakistan 81 new sputum smear positive cases per 100,000 population, but it is likely that the real burden of the disease was underestimated. For this reason, the study of 2008 cases was revived with a new methodology that also took the missed cases into account. According to previous study, the case detection rate was improved from 19% in 2002 to 84% in 2008. However, the recent studies have revealed that the case detection rate improved from 19% to only 60%. Nevertheless, the Pakistan National Tuberculosis Programme (NTP) has remarkably improved and achieved a steady position in TB case detection count since 2007. Through extraordinary, honest commitment and financial inputs, the Government and health departments partnered for the provision of infrastructure improvements by the NTP. [2, 3]

Directly Observed Treatment Short-course (DOTS) strategy was examined by the WHO itself for TB in Pakistan, which was adopted from 1995 onwards. But the main progress was achieved in 2001 with the revival of the NTP and the declaration of TB as an emergency health crisis in "Islamabad Declaration". The objective of this review paper to have a birds eye view of the achievements of Pakistan's NTP over the past decade and to highlight the outstanding priorities and challenges it faced. [4]

Epidemiology of Tuberculosis

TB is highly epidemic in Pakistan. According to the latest estimations of WHO, the prevalence, incidence and mortality of tuberculosis in Pakistan are 310 per 100,000, 230 per 100,000 and 39 per 100,000 respectively. It states that 410,000 incident cases and 69000 deaths due to TB every year in Pakistan. [5]

Pakistan is currently, the sixth highest country among the list of 22 countries that are facing this drastic infectious disease issues, other 22 countries are from WHO's Eastern Mediterranean Region. The NTP conducted a S49 survey for TB in Pakistan in 2010 to have a keen look over the rising cases and their treatment success rate. The statistics showed that the success rate for new SS+ cases reported in 2007 exceeded the WHO target of 85%, and this was due to reduced default line, reduced death rate and reduced transfer rate. Moreover, the report showed that the decline was observed in the reporting of new cases as well since 2007. [6]

- **Planing and Strategic Framework**

"Islamabad Declaration", an inititative took by the Government for programme planning and strategic framework formation for the control of disease on concrete basis. A 5 year plan was devised that lead to universal DOTS coverage till the end of 2005, in the public sector. With the help of Federal Minister of Health and Provincial Departments of the system, the funding was lined up to efficiently carry out the TB control activities. [7]

The implementation of DOTS strategy was full of challenges concerning the quality of public health services, human resources and lack of commitment at peripheral levels. The procurement of antiTB treatment (ATT) drugs were performed with 90% efficiency by districts and the provinces under the governmental management system. The full fledge results were achieved till the end of 2005. DOTS all over appropriate availability of free diagnosis and treatment for patients infected with tuberculosis in all districts and provinces in the public sector was efficaciously reached. [8]

Subsequently, the NTP federal workplan was approved by the government which started from 2006 financial year and it allocated 1.181 billion PKR equavelnt to US$14 million. This fund was allocated for TB related activities like expansion of laboratory work, staff training, public awareness programs, availability of quality drugs, monitoring, evaluation, surveillance, intra and intersectoral collaboration, research work, public-private mix and effective behavioral communication change. [9]

- **Standazrdized Treatment with Supervision and Patient Coordination**

As per the NTP guidelines, the treatment for TB was delegated from the diagnostic centre to the basic health unit levels (rural health hospitals to BHU). Lady health workers provided the special treatment support. A timeline chart was organized with standardized 8 month treatment regimen for new cases, 6 months' isonized and ethambutol in the continuation phase (these are still in place). Since 2008, in all the provinces special proportion of the management in BHUs has been assigned for the Public's Primary Health Initiative, coordination links were also established for effective DOTS implementation. [10]

- **Effective Supply and Drug Management System**

The provincial government and NTP ensured the provision of quality drugs and its easy accessibility

at all levels of the PHC system via federal and provincial budgets or through grants from the Global Drug Facility. [11]

- **Monitoring, Evaluation and Impact Measurement**

NTP was made responsible for the efficacious monitoring, evaluation and impact management of the overall program performances. Since 2003, WHO programme officers, at national, provincial and district levels played a critical role in staunch monitoring of TB control activities. Moreover, they also provided technical and professional support to the authorities at diagnostic centres. Quality surveillance meetings at all levels ensured data verification and its validation between the implementing coordinators. The personnels of NTP and PTPs continuously reviewed the annually conducted WHO meetings and revised their implementing strategies with better outcome. [12]

- **Public–Private Mix (PPM)**

In 30 selected districts, NTP put forward some guidelines for non-profit organizations in order to implement PPM DOTS pilot projects in these regions. Funds for the public sector were allocated in 2003 for district-led PPM model implementation in various districts, similar to those already implemented in 6 different districts. [13]

In addition, Greenstar Social Marketing Pakistan Limited model was instigated in 5 metropolitan cities via GFATM R-3. It encompassed private laboratories for SSM, where more than 1000 general public figures engaged in TB DOTS. Moreover, in 2008 a WHO assisted mission along with PPM initiatives contributed to the diagnosis and treatment of 20% of all old and new cases. Another effective strategy, introduced by PPM is "hospital DOTS linkage", which is still in practice in 27 out of 67 private and public tertiary care hospitals expanding in laboratory services for SSM, standardized treatment provision and development of referral systems. Since 2009, these measurements have shown 50% progress in case notifications. [14]

- **Drug-resistant TB**

After the achievement of DOTS coverage all across the country in 2005, the next target of NTP Pakistan included multidrug resistant tuberculosis interventions. A network for culture and drug susceptibility testing of Mycobacterium tuberculosis was instigated in a few private hospitals and parastatal laboratories in Karachi, Islamabad and Rawalpindi.

Currently, the microbiological laboratory of Agha khan University Hospital, Karachi is collaborating with the NTP for public sector capacity building. [15]

- **Communication, Advocacy and social mobilization**

Activities like effective communication, advocacy and social mobilization in 57 targeted districts laid the foundation of TB/HIV coinfection and MDR-TB interventions. The public was involved in every activity to improve awareness and reduce social stigma. Interpersonal communication was found very effective in combating the disease spread, as awareness aids in careful social practices. [16]

DISCUSSION:

- The NTP initated various PPM models which significantly aided in expanding DOTS to the public sector in every district. This step successfully increased the case notification and treatment rates
- Financial aid came from national and international cooperations like WHO, DFID, USAID, JICA, World Bank and GFATM. Provision of an uninterrupted supply of funds for antiTB drugs and commodities has been assured by the Japense Counter Value Funds, Pakistani Government and Global Drug Facility
- Some projects like TB surveillance system and TB prevalence survey are ongoing. Through WHO technical assistance, an electronic reporting system has been introduced nationwide under the USAID funded Tuberculosis Coalition Assistance Program partners
- Though limited, yet successful engagement of private care health institutes and parastatal health care facilities aided in establishment of DOTS linkage in 27/67 teaching hospitals
- In view of public awareness and cooperation, 60 plus districts has been recognized as prerequisite for the proper health management system, treatment and care for TB and increased –ontime case detection
- Some adjustments and actions are needed in the niche of WHO recommended treatment regimen 2009 principles. These require strenghtining of case management and professional supervision of TB treatment from diagnostic centres to BUHs
- The Tuberculosis Coalition Assistance Program provides assistance to the NTP for reviving drug management and guidelines. NTP has taken an initiative in the form of "seal of quality" for stopping locally formulated ATT drugs to be circulated in the pharmaceutical circle. Currently, NTP needs to be strengthened with the government backing it up for banning the counter sales of ATT drugs

- Currently nine laboratories are updated; 1 national, 2 intermediate, 4 provincial and 2 tertiary care hospitals. Scaling up of MDR-TB is the immediate concern of the health system. By 2015, 80% of the estimated TB SS+ cases received successful care and MDR-TB diagnosis due to NTP along with its partners [17]

CONCLUSION:

While reviewing a decade of success and challenges in combating tuberculosis, it is quite clear that with proper collaboration and effective measurements it is not impossible to fight a deadly epidemic. Identified challenges for further scaling up the TB related activities included , integration in preservice curricula, upgrading TBcontrol standards in Gilgit-Baltistan and other northern areas, innovative approaches for case detection, introduction of electronic registeration systems, adaption of ACSM strategies, equal access to basic health services and operational research studies for all 6 pillars of the Stop TB Strategy.

Although, Pakistan is sustaining progress for over a decade, the NTP nevertheless needs to expand its activities with enthusiasm and great vigour to achieve maximum goals and targets including MDGs. Full adoption of WHO Stop STB Strategy will be instrumental for ensuring further success and sustainability.

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