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Review Article

Gap Analysis in the Management of Tuberculosis in the Republic of Congo -

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ABSTRACT

Faced with the threat of Pulmonary Tuberculosis (PTB), the Republic of Congo benefits from a number of major assets that should enable the next strategic framework to be effectively implemented. The objectives of the Tuberculosis (TB) control grant were to improve the identification of new cases, and achieve a 90% treatment success rate by 2023, in line with the WHO Strategy to End TB.

The problem of under-diagnosis is related to insufficient coverage of laboratories, TB diagnostic services as well as under-detection of TB in high-risk patients.

About 80% of TB patients diagnosed in 2018 do not know their HIV status and 50% of TB/HIV co-infected cases were not on Antiretroviral (ARV) treatment. Screening for tuberculosis among people living with HIV/AIDS (PLWHA) was not systematic; furthermore, the activities associated with co-infection are poorly documented. In the country's departments, the required therapeutic success rate of 90% has not been achieved. This low performance was mainly due to the high proportion of patients lost to follow-up (LTFU) and/or not evaluated. The follow-up of patients under treatment was of poor quality due to the absence of appropriate technical means for diagnosis such as mycobacterial culture and phenotypic testing of sensitivity to anti-tuberculosis drugs.

No evaluation has been done to measure the impact of TB on the costs incurred by patients and their families and limited research capacity of the National Tuberculosis Program.

INTRODUCTION

The post-pandemic period of COVID-19 in the Republic of Congo threatens to undermine all the progress we have made in recent years on the health and development front. The Global Fund play a key role in helping the Ministry of Health to build a resilient and sustainable health system in the Republic of Congo and enable the population to access the essential services they need [1].

The Republic of Congo is a Central African country covering an area of 242,000 squares kilometers with an estimated population of 5.518 million in 2020 [2]. The country is divided into twelve departments: Likouala, Sangha, Cuvette, Cuvette-Ouest, Plateaux, Brazzaville, Pool, Bouenza, Lekoumou, Niari, Kouilou, Pointe-Noire. The major health problems are characterized by a predominance of tropical diseases, with frequent epidemics (cholera, measles, yellow fever, meningitis). Malaria, acute respiratory infections and diarrheal diseases are the dominant diseases. Malaria infection, acute respiratory infections and diarrheal diseases are the most important in our population. In addition, HIV and tuberculosis are the public health concern.

Faced with the threat of PTB, the Republic of Congo benefits from a number of major assets that should enable the next strategic framework to be effectively implemented.

In early 2021, the Global Fund, the government of the Republic of Congo, and health partners formalized the launch of two new grants aimed to increase access to HIV, TB, and malaria prevention and treatment services and create resilient and sustainable health systems. The United Nations Development Programme will implement the HIV and TB grant. To date, with the support of donors and partners, more than US\$122 million has been invested in the Republic of Congo. These funds have expanded access to essential HIV and TB treatments. Approximately 12,000 patients are screened and treated for TB each year [3].

The objectives of the TB control grant was to strengthen the national response to TB, improve the identification of new cases, and achieve a 90% treatment success rate by 2023, in line with the WHO Strategy to End TB [4]. This grant also supported the country's efforts to improved treatment outcomes for Multidrug-Resistant TB (MDR-TB) and improve access to second-line TB treatment, particularly for immune compromised patients.

Under-reporting and under-diagnosis of TB cases in the general population

WHO estimates that approximately 50% of TB patients in Congo are not notified to the National TB Program (2021). In 2021,

the incidence of TB was 379 cases per 100,000 inhabitants and the mortality was 53 cases among HIV-/TB patients and 42 cases among HIV+/TB patients per 100,000 inhabitants. In the first half of 2021, the country recorded 6140 new cases of TB, of which 2326 were bacteriologically confirmed pulmonary cases, 2289 clinically diagnosed cases and 2836 cases of extra EPTB. The number of relapses, on the other hand, amounted to 5506 cases [5].

Low laboratory coverage implies low detection of TB among high-risk patients. The latter category includes those LTFU before or after laboratory testing. The absence of registration of suspected cases at the level of general consultations does not allow us to document this gap. Under-diagnosis is also linked to the low coverage of the National TB Control Program in peripheral laboratories and to the low use of rapid diagnostic tests at all levels of the healthcare pyramid. The problem of under-reporting is mainly related to private clinics that diagnose TB cases without sending a report to the National TB Program.

The figure 1 summarizes these different factors to be taken into account in order to increase diagnosis and reporting.

Inadequate supervision of patients with susceptible TB who are put on treatment

No one country's department have achieved 90% treatment success. The therapeutic success rate is between 47% and 81% in the 12 departments of the country with a national average of 64%. This low performance was essentially due to the high proportion of patients LTFU and/or not evaluated. Indeed, five departments, out of the 12 in our country, have a proportion of patients LTFU patient cased and not evaluated of more than 30%, one department has a proportion of 21.9% and the other six departments have a proportion of LTFU patients and not evaluated of between 19 and 15.1%. These results could be explained by discontinuous follow-up of patients under treatment. The causes were multifactorial, such as directly observed treatment haven't yet applied, but also the absence of timelines (or their use) in diagnostic and treatment centres, lack of digital tools to monitor adherence of patients on treatment, as well as lack of financial and psychological support for patients. The community-based system for patient management in the community was still weak, and was being implemented in prisons and in some diagnostic and treatment centres.

Insufficient management of co-morbidities, particularly of HIV co-infected TB patients

About 80% of TB patients diagnosed in 2018 do not know their HIV status and 50% of TB/HIV co-infected cases are not on ARV

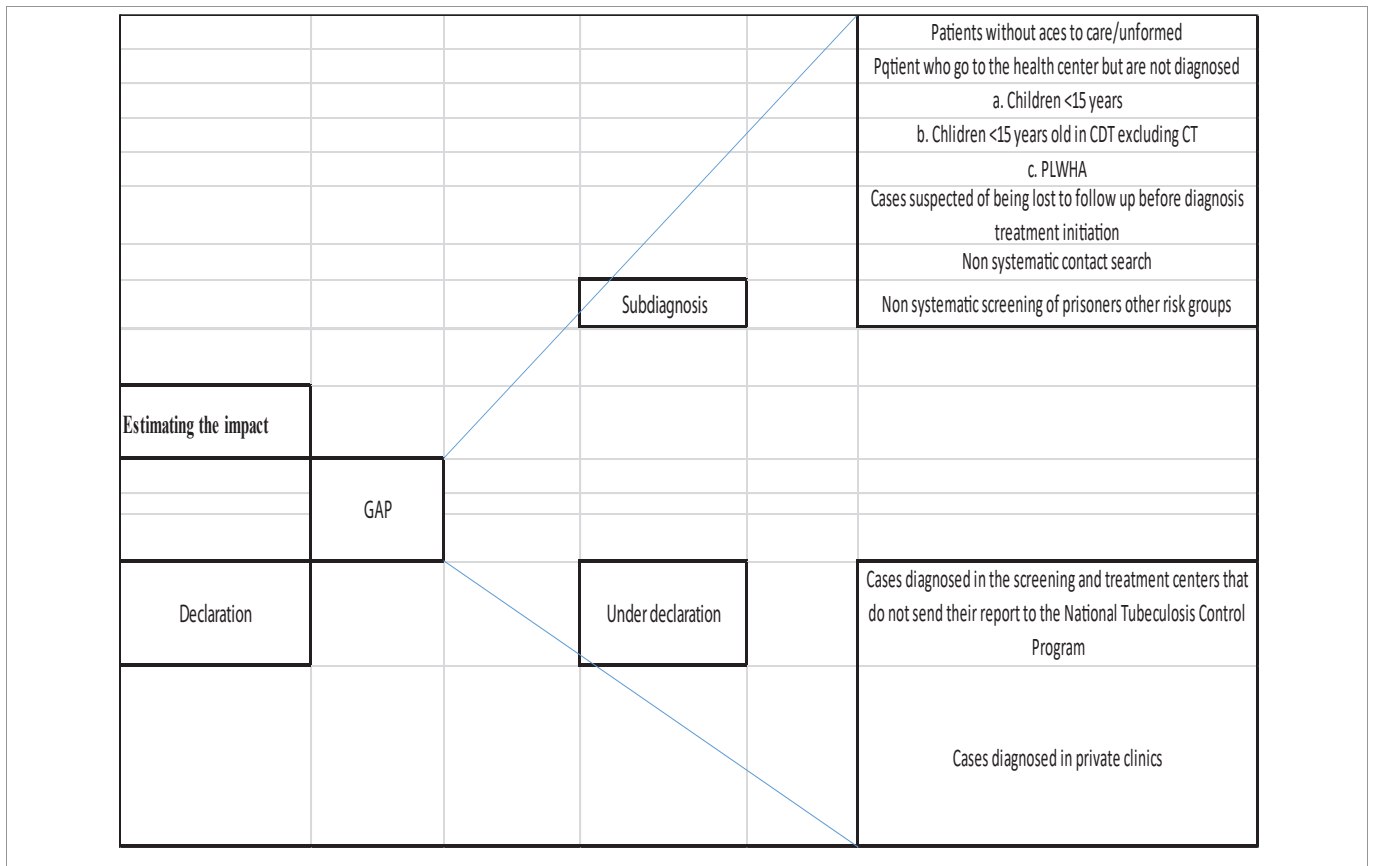


Figure 1: Factors to consider in increasing diagnosis and reporting.
 DTC: Diagnostic and Treatment Centre; TC: Tuberculosis Centre; PLWHA: People Living with HIV

treatment. Detection and management of co-infected cases is largely inadequate. Among the causes are the frequent shortages of HIV tests, ARVs and Cotrimoxazole, which the National AIDS Control Program is facing. In addition, the prescription of ARVs is currently reserved only for physicians accredited by the National AIDS Control Program. A significant proportion of diagnostic and treatment centres (67%) do not have the codes to allow them to prescribe ARVs. The limited management of co-infection is also linked to the lack of integration of TB and HIV services in most facilities. The National Tuberculosis Control Program has 40 health facilities, of which only 17 offer HIV care (HAART prescription). For HIV, out of 72 health facilities offering TB care, only 23 offer TB care.

Tuberculosis screening among people living with HIV/AIDS (PLWHA) is not systematic; and coinfection status is poorly documented. PLWHA access to rapid diagnostic tools (GeneXpert) for TB is low and PLWHA haven't being yet included in the GeneXpert algorithm. Poor coordination between the National AIDS Control Program and the National TB Program and lack of funding for co-infection contribute to this problem. The working group (TB/HIV Task Force) is non-functional; there have been no meetings since its creation.

Inadequate management of drug-resistant tuberculosis

In 2020, 50% bacteriologically confirmed MDR-TB cases were put on second line treatment, or 81%. According to the latest WHO estimates for 2020, the number of new MDR-TB cases was 163, in contrast patients started on treatment - MDR/RR-TB were 157 cases [6].

The under detection of MDR-TB may be due to the fact that 7 of the 12 departments do not have a TB-MDR diagnostic machine or a specimen transport system.

The country is confronted with frequent shortages of second line drugs. The follow-up of patients under treatment has a poor quality due to the absence of technical facilities to perform culture and sensitivity tests and to detect complications related to the use of second-line drugs. The human resources trained in the management of MDR cases are insufficient, particularly at the intermediate and peripheral levels. Currently, only the central unit is authorized to prescribe treatment for MDR-TB. Health facilities are not prepared to follow up patients with multidrug-resistant TB who are treated on an outpatient basis (lack of tools to follow up on patients' adherence to treatment).

Inadequate management of vulnerable patients

Although the need to manage vulnerable and high-risk TB patients is identified as a priority by the National TB Control Program, activities for the management, coordination and care of most of these populations are not sufficient. Regarding the Management of TB in Children, there is a lack of training and poor collaboration with the Childhood Illness Management Program. The 2016 Childhood TB guidelines do not take into account the new WHO guidelines [7]. National TB Program surveillance data show the situation with underdiagnosed TB in children < 5 years old.

Strategies and technical guidelines for TB management for other vulnerable populations are not active. The National Tuberculosis Program has no data on vulnerable populations with TB.

Inadequate leadership and management of the TB program within the health system

Management and leadership of the National TB Program is limited by the lack of functional coordinating bodies and the absence of functional collaboration with other health and other government sectors/departments. The organizational chart of the National Tuberculosis Control Program has just been published by presidential decree and is not yet functional due to the lack of human and financial resources.

Indeed, there is not enough staff to occupy the different departments defined in the organization chart. The National Tuberculosis Control Program does not have a human resources development plan with clearly identified and described profiles. The current human resources situation of the National Tuberculosis Control Program means that it will not be able to comply with the new organizational chart. The existing human resources were not supervised and monitored due to a lack of training and supervision.

Weak community involvement in the fight against Tuberculosis (TB)

More than 30% of the Congolese population has difficult access to health care because they live more than 5 km from a healthcare facility. The adoption of a strategy to improve health coverage is therefore necessary. The Ministry of Health and Population has developed, since 2017, the National Policy on Community-Based Health Interventions. This policy aims to:

- 1) Serve as a reference framework for all social-health interventions involving the community;
- 2) Draw the attention of decision-makers to the need to support the community to take charge of its own health and participate more in activities related to health and development;
- 3) Facilitate the creation of an enabling environment to develop the capacity of communities to participate effectively in decision making in line with the primary health care approach;
- 4) Empowering communities in health matters. There is no national strategic plan for community health to implement the national policy.

For some years, the community system has been involved in the management of TB control activities, particularly in improving treatment outcomes (Lost to Treatment and Not Assessed) and raising awareness about TB among prison populations.

Nevertheless, the community actors involved (NGOs, civil society organizations, community relays) do not have a reference framework in line with the WHO “Engage TB” approach, nor do they have training modules to strengthen their capacities in the fight against TB and HIV.

Weaknesses in the coverage and quality of the disease surveillance system

The gaps in surveillance relate to the need to adapt the collection tools to the new program activities, the insufficient quality of the data and the limited coverage of the surveillance system [8]. The

surveillance data are incomplete due to the lack of completeness of the registers at the peripheral level as well as the non-exhaustiveness of the reports sent to the central level. There is no written quality assurance procedure. The current surveillance system does not allow direct measurement of mortality (no registration of causes of death in the country) or TB/HIV co-infection (proportion of TB cases tested for HIV < 50%). The prevalence of drug-resistant TB has never been assessed in the country. The current national database has inconsistencies and does not allow the necessary analysis of specific indicators and geographic areas.

Lack of policy and strategies for the social protection of TB patients and their families

No evaluation has been done to measure the impact of TB on the costs incurred by patients and their families.

LIMITED RESEARCH CAPACITY

The National Tuberculosis Program does not have sufficient capacity to conduct research that would help address the challenges in implementing the strategies developed. The National Tuberculosis Program has not created a Research Partners Network and has not developed Strategic Plan on TB research.

CRITICAL ASSUMPTIONS

Risk assumptions that could impede the effective implementation of the strategic framework arise from the following:

- Low resource mobilization;
- Insufficient coordination;
- Weak application of the multisectoral approach;
- The lack of effective involvement of the new political authorities in the fight against TB, particularly in MDR and HIV-AIDS co-infection;
- The non-renewal of certain important projects that will end in 2019.

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