Strengthening tuberculosis control to advance towards elimination: The 2018 Rev. Port. Pneumol. (RPP) TB Series

Despite the global efforts, that have succeeded in reducing tuberculosis (TB) mortality rate by 37% since 2000, TB was one of the top 10 causes of death worldwide in 2016, the main cause of deaths related to antimicrobial resistance and the leading cause of death among people with HIV. According to WHO report, in 2016, there were an estimated 10.4 million new TB cases worldwide, 10% of which were people living with HIV. An estimated 1.7 million people died from TB, including nearly 400,000 people who were co-infected with HIV. This represents a decrease of 4% from 2015.

Multidrug-resistant TB (MDR-TB) remains a public health threat. WHO estimates that there were 490,000 MDR-TB cases. Elimination of TB is not an easy goal. A realistic approach to tuberculosis elimination has to rely on the development of innovative diagnostic, treatment and preventive tools. But it will not be possible without a strong political commitment and addressing the socio-economic determinants of the disease.

The aim of this tuberculosis series is to present an update on tuberculosis and provide a framework for future discussions among clinicians for the development of strategies towards tuberculosis elimination. Despite the evolution in tuberculosis diagnostic tools, we still have several unmet needs – we need diagnostic tests which are more accurate, more rapid, affordable, simple and with the ability to give a same-day result at point of care. We will discuss the diagnostic methods available and the potential impact of potential point of care diagnostics for tuberculosis. We will then update on the role of the newly developed drugs as well as repurposed drugs.

There is a growing consensus on the need to act on the social determinants and co-morbidities of tuberculosis. It will not be enough to act only in diagnostics and treatment. There is a need to identify interventions ensuring social protection and tackling the challenges of urbanization in order to reduce the risk of exposure, infection and development of disease.

To provide proper treatment for MDR-TB cases may be a challenge due to the limited availability of second-line drugs, occurrence of serious adverse events, risk of further resistance. We will discuss the available tools to help physicians to manage these difficult cases.

Tuberculosis in children remains a partially neglected topic, and this is why a specific article will present the state-of-the-art management of tuberculosis and latent tuberculosis infection in children.

Given the migration crisis a specific article ‘making the point’ on the migrant and refugee emergency, and on the necessary response of national programmes in terms of prevention, diagnosis and treatment has been included.

Finally, given the difficulties of managing NTM we have included a special article on this difficult topic.

Overall, the path forward for the lowest TB burden countries seems clear: continue to improve surveillance within coordinated national programmes; decrease diagnosis and treatment delay; approach and manage vulnerable populations; promote effective treatment for active TB in order to prevent drug resistance; and increase the impact of preventive actions – screening for latent tuberculosis infection and treatment of those infected. This will not happen without high-level political commitment and continuous medical education of health staff.

References

12. Sousa P, Oliveira A, Gomes M, Gaio AR, Duarte R. Longitu- 
dinal clustering of tuberculosis incidence and predictors for 
the time profiles: the impact of HIV. Int J Tuberc Lung Dis. 2017;21:327-32, 
http://dx.doi.org/10.5588/ijtld.16.02997.

10. Imtiaz S, Shield RD, Roedecke M, Samokhvalov AV, Lönnroth K, 
Rehm J. Alcohol consumption as a risk factor for tuberculosis: 
meta-analyses and burden of disease. Eur Respir J. 2017;50, 

11. Santos-Silva AF, Migliori GB, Duarte R. Tuberculosis, alcohol 
and tobacco: dangerous liaisons. Rev Port Pneumol. 2017;23, 
http://dx.doi.org/10.1016/j.rppnen.2017.05.001.

12. Sousa P, Oliveira A, Gomes M, Gaio AR, Duarte R. Longitu- 
dinal clustering of tuberculosis incidence and predictors for 
the time profiles: the impact of HIV. Int J Tuberc Lung Dis. 2016;20:1027-32, 
http://dx.doi.org/10.5588/ijtld.15.0522.

diagnostics for tuberculosis. Rev Port Pneumol. 2018, 

L, Zumag A, et al. New drugs and perspectives for 
new anti-Tuberculosis regimens. Rev Port Pneumol. 2018, 
http://dx.doi.org/10.1016/j.rppnen.2017.10.009 [in press].

15. Duarte R, Muñoz FLMAC. Tuberculosis, social determinants 
and co-morbidities (including HIV). Rev Port Pneumol. 2018, 

Gualano G, et al. Beyond multidrug-resistant tuberculosis in 
Europe: a TBNET study. Int J Tuberc Lung Dis. 2015;19:1524-7, 
http://dx.doi.org/10.5588/ijtld.15.0274.

17. Khan FA, Salim MAH, du Cros P, Casas EC, Khamraev 
A, Sikkonde W, et al. Effectiveness and safety of standardised shorter regimens for multidrug-resistant 
tuberculosis: individual patient data and aggregate 
data meta-analyses. Eur Respir J. 2017;50:1700061, 

A, Migliori GB. New anti-tuberculosis drugs and regi- 
mens: 2015 update. ERJ Open Res. 2015;1:00010-2015, 

D'Ambrosio L, Centis R, et al. Effectiveness and safety of 
bedaquiline containing regimens in the treatment of MDR- 
and XDR-TB: a multicentre study. Eur Respir J. 2017;49, 

http://dx.doi.org/10.3201/eid2103.141343.

R, Guglielmetti L, Muñoz M, et al. Team approach to manage difficult-to-treat TB cases: experiences 
in Europe and beyond. Rev Port Pneumol. 2018, 
http://dx.doi.org/10.1016/j.rppnen.2017.10.005 [in press].

22. Carvalho I, Golelli D, Manga S, Rosatto D, Manissero D, Migliori 
G. Managing LTBI and TB in children. Rev Port Pneumol. 2018, 
http://dx.doi.org/10.5588/ijtld.16.0732.

23. Rendon A, Centis R, Solovic I, Torres-Duque CA, Robalo Cordeiro 
C, de Queiroz Mello FC, et al. Migration, TB control and elim-
ation: whom to screen and treat. Rev Port Pneumol. 2018, 
http://dx.doi.org/10.1016/j.rppnen.2017.11.007 [in press].

24. Chalmers J, Aksamit T, Carvalho AC, Rendon A, Franco I. Non-tuberculous mycobacterial pulmo-
nary infections. Rev Port Pneumol. 2018, 

R. Duarte a, b, G.B. Migliori b, A. Zumla c, C.R. Cordeiro d 
a National Reference Centre for MDR-TB, Hospital Centre 
Vila Nova de Gaia, EpiUNIT Instituto de Saúde Pública da 
Universidade do Porto, Faculdade de Medicina, 
Universidade do Porto, Porto, Portugal 
b World Health Organization Collaborating Centre for 
Tuberculosis and Lung Diseases, Fondazione S. Maugeri, 
IRCCS (Istituto di Ricovero e Cura a Carattere Scientifico), 
Italy 
c Division of Infection and Immunity, University College 
London and NIHR Biomedical Research Centre, UCL 
Hospitals NHS Foundation Trust, London, UK 
d Centro Hospitalar e Universitário de Coimbra, Coimbra, 
Portugal

* Corresponding author. 
E-mail address: rdmel@med.up.pt (R. Duarte).