Editorial

RESP

Basic characteristics for a good tuberculosis prevention and control programmes currently in Spain

Millet JP

Epidemiology Service. Public Health Agency of BarcelonaPublic Health Agency of Barcelona. Barcelona. Co-medical director at Serveis Clinics. Centro de Investigación Biomédica en Red (CIBER) of Epidemiology and Public Health. Barcelona.

It is hard to find another infectious disease that has had more impact on morbidity and mortality throughout human history than tuberculosis (TB). The conditions of the bacillus (slow growth, resistance of the bacterial wall, airborne transmission, very long latency period, non-specific clinical manifestations and insidious onset) make *Mycobacterium tuberculosis* a germ with almost ideal potential for silent but inexorable growth. A total of ten million cases and one and a half million deaths every year, along with one quarter of the world's population infected, and therefore at risk of developing the disease, is ample witness to this fact[1,2]. Neither should we forget the tremendous economic and emotional impact on the people and families who suffer from it, even more so when people with the disease live in countries with precarious healthcare systems. The resources and measures to cope with such a widely neglected bacillus should be applied at local level in each every, province, epidemiologycal surveillance unit and community. At the same time, a global overview of its impact and transmission is also necessary if we wish to overcome it.

The first and most essential element in any TB prevention and control programme (TBPCP) should be to frame it within a free and universal healthcare system. It should be able to diagnose cases early, ensure the correct treatment and monitor the disease until the patient is cured. Furthermore, especially in specially in settings of low and medium TB incidence, it is essential to establish censuses and contact tracing of TB cases in different areas and run screening programmes for latent tuberculosis infection (LTBI) in vulnerable populations to prevent to prevent progression to a disease[3-6]. But the remedy is not an easy one… To ensure that all these activities are carried out by the professionals concerned (epidemiologists, clinical practitioners, microbiologists, nursing staff, healthcare providers…), there needs to be fluid and adequate communication between stakeholders, with constant backup and coordination form the local public health services[3,4].

For this kind of programme to work effectively, one very necessary figure is that of the skilled public health public health nurse (PHN), working at territorial epidemiologycal surveillance units (ESU). Their main duties consist of conducting epidemiological surveys and coordinating with primary healthcare, hospitals and directly observed therapy (DOTS) teams, to ensure compliance with treatment and the census and the indication of contact tracing. The inclusion of community health workers who act as mediators has given very positive results over the last 20 years in our TBPCP in Barcelona. There, the TB clinical units and the DOTS teams have constantly worked hand in hand with PHN[7-10].

One major challenge is to reduce the tremendous TB diagnostic delay that favour transmission of the disease in the community. Early detection of persons with pulmonary TB is essential for starting contact tracing, detecting LTBI and prescribing treatment. One basic measure that can help to make this a reality is to increase the levels of suspicion by clinicians working in emergency services and primary healthcare. Another key aspect is to provide specialists in clinical management of the disease who can apply a multidisciplinary approach to their work in hospital TB care units. Such figures should be another basic part of any TBPCP. Fluid communication between ESU and mycobacteriology laboratories, along with regular notification of clinicians, are other essential features that can ensure that the disease is correctly monitored

Rev Esp Sanid Penit. 2021;23(1):6-8
doi: 10.18176/resp.00025

and controlled[3,4,6]. Laboratories should also alert us to the existence of any drug-resistant strains that might make it necessary to modify TB and LTBI treatments.

Together with PHN working at ESU, TB care units and laboratories, it is also necessary to ensure treatment adherence from patients who do not comply with their therapy. Other patients who move to another part of the country during treatment should be placed on a DOTS programme or, if necessary, enter a long-stay centre until their treatment is completed. On some occasions, it may help to have the powers to issue a court to force patients with bacilli pulmonary TB who refuse to undergo treatment so as to prevent the disease from spreading in the community. Another basic element of the TBPCPs in Spain should be well-established and effective communications and coordination with TB programmes in prisons[11]. Imprisonment is a good opportunity to screen for and correctly treat TB and LTBI, to prevent future endogenous reactivations in some population groups that are vulnerable to developing the disease.

Every community should define which department coordinates activities, but the TBPCPs should be fully documented about the local population profile and how this affects the disease, and how it in turn is distributed throughout the territory. The public health professionals responsible for the TB programme should be alert to the need to include other stakeholders as the needs of the population and profiles of those affected change over time. Dynamic relationships therefore need to be maintained with the health systems, and service providers should be informed about the need to include new agents or functions. Finally, to ensure that a TB programme is efficiently maintained, it is essential to include research activities (basic, epidemiological, clinical assays, etc.) and to evaluate the effectiveness of the differents interventions.

In countries with a low or medium incidence, the profile of the population that presents the greatest difficulties in controlling TB are usually the homeless, immigrants or persons with problems of drug abuse, etc. They are often associated with longer diagnostic delays, non-compliance with treatment and greater difficulties in contact tracing. TB and LTBI screening strategies for vulnerable groups such as these should also be a essential characteristic of a TBPCP. The inclusion of new stakeholders such as the social services and their street educators is also essential since it enables social intervention to be established alongside healthcare to provide patients with a greater degree of stability that goes beyond only treating and curing the disease. Other future challenges include improving external coordination between autonomous communities and countries to more effectively monitor cases and therapy for patients who move frequently, adding new drugs to the TBPCPs (bedaquiline, delamanid, pretomanid, rifapentine, etc.) and new techniques for diagnosing TB and LTBI.

This complete and complex web of stakeholders and circuits requires organisation and human and economic resources. Institutions have therefore been calling for the creation of a National Plan to prevent and control TB in Spain and the provision of resources needed to coordinate and organise these initiatives. While we wait for this plan to become a reality, the COVID-19 pandemic has invaded our lives, often threatening to affect TBPCP programmes that are already weakened, and putting at risk the control of TB both in Spain and worldwide.

CORRESPONDENCE

Joan-Pau Millet
E-mail: juampablomillet@gmail.com
jmillet@aspb.cat

REFERENCES

1. World Health Organization. Global tuberculosis Report 2019. [Internet]. WHO; 2019. Available in: www.who.int/tb/publications/global_report/en/
2. European Centre for Disease Prevention and Control, World Health Organization. Tuberculosis surveillance and monitoring in Europe. [Internet]. ECDC, WHO; 2020. Available in: https://www.ecdc.europa.eu/sites/default/files/documents/TB-Surveillance-report_24March2020.pdf
3. Caylà JA, Orcau A. Control of tuberculosis in large cities in developed countries: an organizational problem. BMC Med. 2011;9:127.
4. Mejoras en el control de la TB en grandes ciudades. [Vídeo]. Unidad de Investigación en Tuberculosis de Barcelona (UITB). Available in: https://www.youtube.com/watch?v=mE1nZn3bCmE&t=23s
5. Prats-Uribe A, Brugueras S, Comet D, Álamo-Junquera D, Ortega Gutiérrez L, Orcau À, Caylà JA, Millet JP. Evidences supporting the inclusion of immigrants in the universal healthcare coverage. Eur J Public Health. 2020;30(4):785-7.
6. Millet JP, Moreno A, Fina L, del Baño L, Orcau A, García de Olalla P, et al. Factors that influence current tuberculosis epidemiology. Eur Spine J. 2013;22(Suppl 4):539-48.

7. Rodrigo T, Casals M, Caminero JA, García-García JM, Jiménez-Fuentes MA, Medina JF, et al. Factors Associated with Fatality during the Intensive Phase of Anti-Tuberculosis Treatment. PLoS One. 2016;11(8):e0159925.
8. Ospina JE, Orcau A, Millet JP, Sánchez F, Casals M, Caylà JA. Community health workers improve contact tracing among immigrants with tuberculosis in Barcelona. BMC Public Health. 2012;12:158.
9. Brugueras S, Orcau À, Millet JP, Espinosa L, de Andrés A, Gorrindo P, et al. Tuberculosis clinical units improve contact tracing. Int J Tuberc Lung Dis. 2016;20(12):1572-9.
10. Jové N, Masdeu E, Brugueras S, Millet JP, Ospina JE, Orcau À, et al. Threats and Interventions During the Treatment of Tuberculosis in an Inner-city District. Arch Bronconeumol. 2020:S0300-2896(20)30179-4.
11. Marco A, Solé N, Orcau A, Escribano M, del Baño L, Quintero S, et al. Prevalence of latent tuberculosis infection in inmates recently incarcerated in a men's prison in Barcelona. Int J Tuberc Lung Dis. 2012;16(1):60-4.

Rev Esp Sanid Penit. 2021;23(1):6-8
doi: 10.18176/resp.00025