



Estudio de contactos de casos de TB pulmonar en Catalunya antes y durante la pandemia de la COVID-19

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(Proyecto FIS “Incidencia y factores predictores de tuberculosis y del cumplimiento del tratamiento de la infección tuberculosa latente en una cohorte de expuestos a *Mycobacterium tuberculosis* (PI18/01751)”)

Barcelona, 17 de marzo de 2021

Introducción

- La COVID-19 puede tener un impacto negativo importante en el control de la tuberculosis (TB)
 - Algunos estudios¹ indican una reasignación de recursos para el control de la TB en el control de la COVID-19.
 - Este escenario podría comportar errores ya observados en el pasado en el control de la TB

Morbidity and Mortality Weekly Report

Notes from the Field

Effects of the COVID-19 Response on Tuberculosis Prevention and Control Efforts — United States, March–April 2020

Ann M. Cronin¹; Shanica Railey, MPH¹; Diana Fortune²;
Donna Hope Wegener, MA²; Justin B. Davis, MPH¹

CDC's Division of Tuberculosis Elimination (DTBE) funds 61 state, local, and territorial tuberculosis programs in the United States through the TB Elimination and Laboratory cooperative agreement. Recipients report data to CDC on indicators that measure progress toward TB elimination and performance of essential TB program activities. After the first U.S. case of coronavirus disease 2019 (COVID-19) was reported on January 20, 2020 (1), CDC project officers were informed by these grantees that program personnel (including those positions funded through the CDC cooperative agreement and state or local budgets) would be deployed for their jurisdictions' COVID-19 response.

In April 2020, as part of routine monitoring, CDC project officers communicated with 50 of the 61 (82%) grantees to estimate the effect of COVID-19 deployments on essential TB activities. Eleven (18%) programs were not reached because of deployments among project officers and recipients. CDC project officers characterized the effect as 1) no impact (no changes in staffing assignments or TB program activities), 2) partial impact (<50% of personnel time dedicated to COVID-19 response or some changes made to program activity, but activity still being performed), or 3) high impact (50%–100% of personnel time dedicated to COVID-19 response or major changes made to program activity or activity not being performed at the time of the program's response) (Table).

Among the 50 programs, 60%–72% were experiencing partial or high impact on staffing capacity for 1) cooperative agreement and fiscal management, 2) clinical consultation or clinic service delivery, 3) outreach and field services (e.g.,

targeted testing and treatment of latent TB infection among populations at risk, and 58% for case reporting and other surveillance activities (genotype or cluster monitoring and data analysis). In addition, 74% of the TB programs reported reduced program evaluation, and 94% reported reduced education and training efforts.

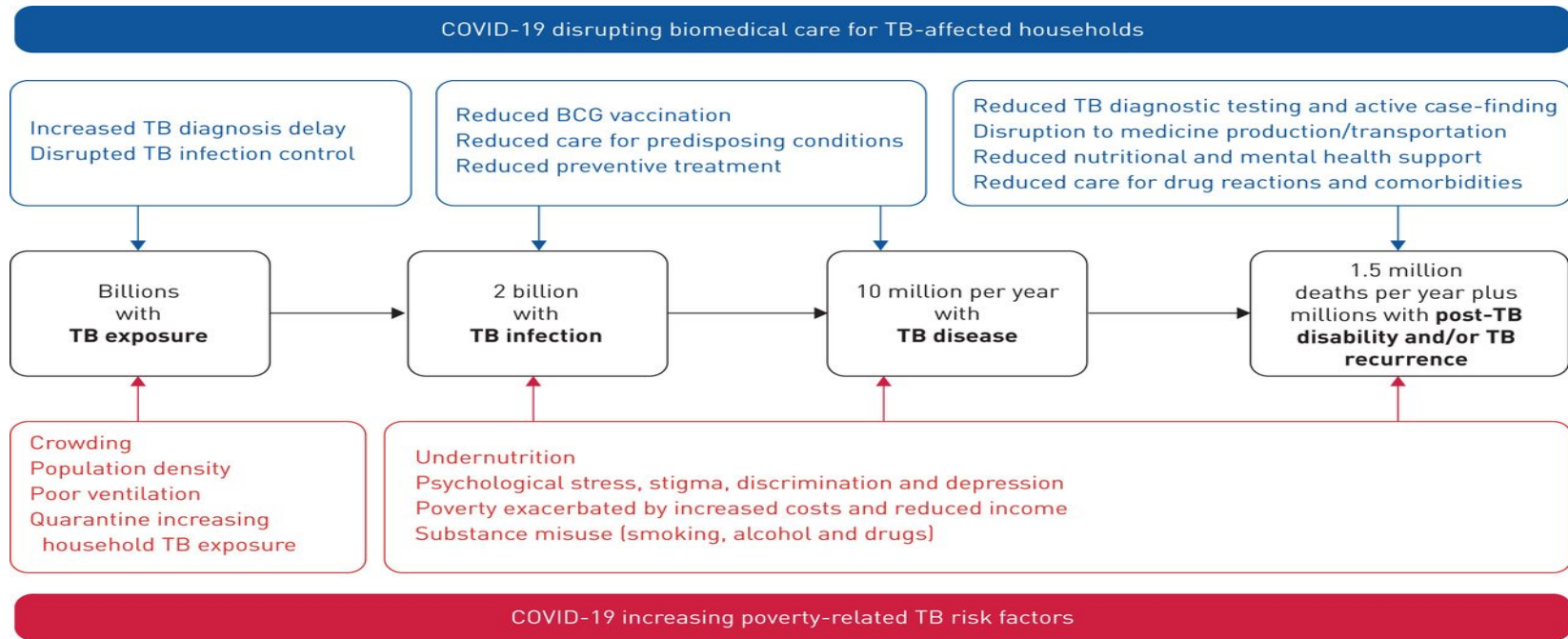
The National TB Controllers Association (NTCA), which represents all state, local, and territorial programs, observed similar effects. NTCA convenes monthly webinars for members to discuss emerging problems and share best practices. By March, webinar participation was declining because of deployments. To obtain moment-in-time impressions of how the response was affecting TB activities, NTCA queried participants using a series of real-time text questions and tallied responses to each question. In the March 18 and April 9, 2020, webinars, >90% of 43 (March) and 38 (April) responses indicated that TB programs had deployed personnel to their jurisdictions' COVID-19 response. TB program personnel possess skills that health departments needed for the response. For example, among 72 responses in April, 26% were providing expertise in contact tracing, 21% in infection control, 17% in clinical care and treatment, and 14% in monitoring patients in home isolation.

Responses to polling questions indicated that capacity for essential TB activities declined between March and April. For example, during the April webinar, the percentage of responses regarding less time for interviewing patients doubled over responses to the same question in March (22% of 115 responses in April, compared with 10% of 110 responses in March), and 15% indicated challenges in obtaining TB medications, up from 7% in March. Transfer of TB resources for COVID-19 use (including personal protective equipment, housing, hospital beds, and isolation rooms) was indicated by 12% of responses in April, up from 7% in March.

These observations suggest that the COVID-19 response is

1. Cronin AM, Railey S, Fortune D, Wegener DH, Davis JB. Notes from the field: effects of the COVID-19 response on tuberculosis prevention and control efforts—United States, March–April 2020. *MMWR Morb Mortal Wkly Rep.* 2020;69:971–2.

Mechanisms by which the COVID-19 pandemic is expected to worsen the tuberculosis (TB) pandemic.



Matthew J. Saunders, and Carlton A. Evans Eur Respir J
2020;56:2001348

Introducción

- El impacto de la COVID-19 en el control de la TB podría ser debido a una reducción del estudio de contactos y de la detección de la ITL por:
 - Reducción de recursos destinados a la TB.
 - Aumento del estigma que usualmente está asociado a la TB

Introducción

- El impacto de la COVID-19 en el control de la TB podría implicar aumento de la transmisión por:
 - Mayor exposición a los casos, especialmente en los domicilios, por las medidas de confinamiento
 - Menor atención a comorbilidades como la diabetes, VIH o cáncer que también comportan riesgo de TB
 - Retraso diagnóstico atribuible al paciente o a los propios servicios sanitarios
 - El SARS-CoV2 puede causar lesiones que favorezcan el paso de ITL a enfermedad

Objetivos

- Presentar los resultados preliminares de un proyecto de investigación para estudiar la incidencia y los factores de riesgo de TB en contactos de casos incidentes de TB pulmonar.
- Valorar el posible impacto que puede tener la pandemia de la COVID-19 en la prevención y control de la ITL.

Métodos

- Estudio de cohorte de los contactos de casos de TB pulmonar en Cataluña notificados desde el 01/01/2019 hasta el 31/12/2020.
- La población de estudio fueron los contactos de todos los pacientes nuevos de TB pulmonar censados por la red de vigilancia epidemiológica.
- Se recogió información de las variables del caso índice y de los contactos.

Métodos

- **Caso de TB pulmonar:** TB que afectan a los pulmones o árbol traqueo-bronquial, incluyendo la localización laríngea por su elevada contagiosidad.
- **Caso índice:** primer caso de TB pulmonar que se detecta y que motiva el estudio de contactos.
- **ITL:** la inmunorespuesta persistente a los antígenos de *M. tuberculosis*. Se detecta por la positividad de la reacción a la tuberculina y/o a los IGRA sin evidencia clínica, radiológica ni bacteriológica de TB.

Métodos

- **Contacto de primer círculo:** contacto íntimo con una exposición diaria al caso índice de más de 6 horas.
- **Contacto de segundo círculo:** contacto frecuente con una exposición diaria al caso índice de al menos de 6 horas a la semana.
- **Contacto del tercer círculo:** contacto diario con el caso índice con una exposición de menos de 6 horas a la semana.
- **Contacto de cuarto círculo:** contacto esporádico

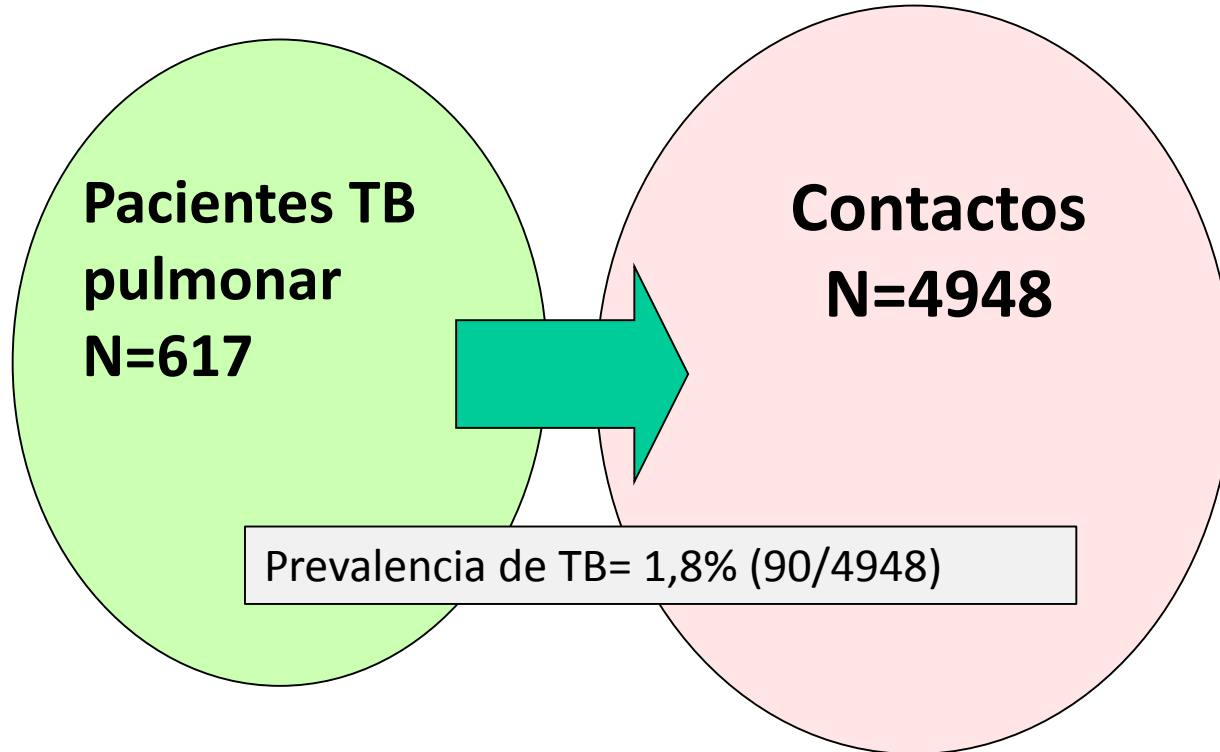
Métodos

- Se recogió información de las variables del caso índice y de los contactos.
 - La variable dependiente fue presentar TB o ITL en los contactos.
 - Variables independientes: edad, sexo, inmigrante, conviviente, intensidad exposición, ámbito de contactos, año de estudio (2019, 2020), tabaquismo, consumo de riesgo de alcohol, comorbilidades, Tratamiento de la ITL (TITL), aceptación del TITL, Cumplimiento del TITL.

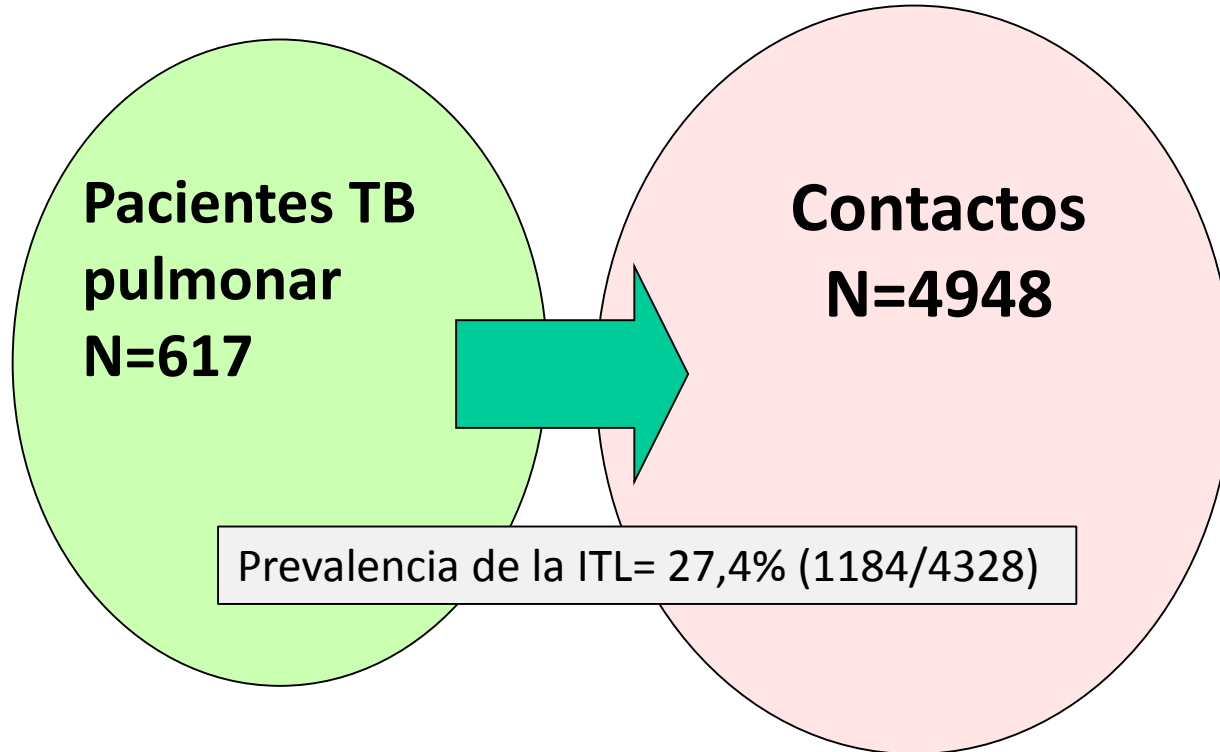
Métodos

- Se calculó la prevalencia de ITL y de TB entre los contactos.
- Se han comparado los estudios de contactos realizados el antes de la pandemia (2019) y en la pandemia (2020).
- La existencia de asociación estadística se ha determinado mediante el grado de significación estadística (p) con la prueba de chi-cuadrado.
- Los factores asociados a riesgo de ITL o TB se han determinado mediante el cálculo de la odds ratio (OR) y su intervalo de confianza (IC) del 95%.

Resultados

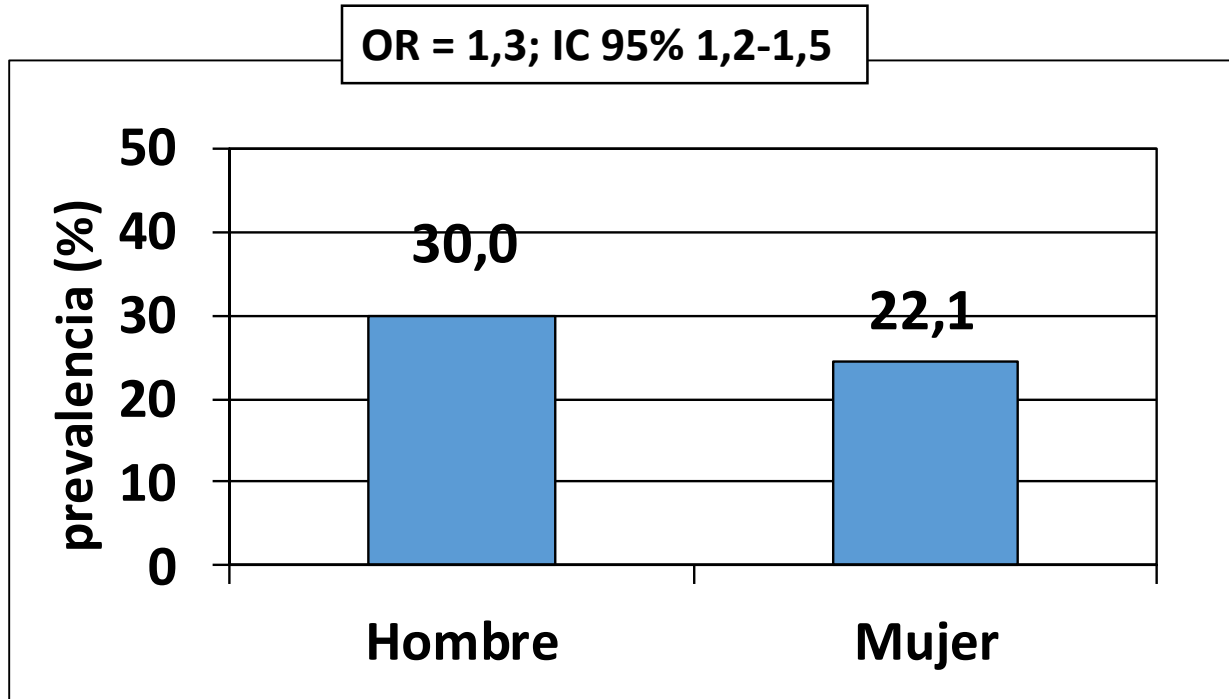


Resultados



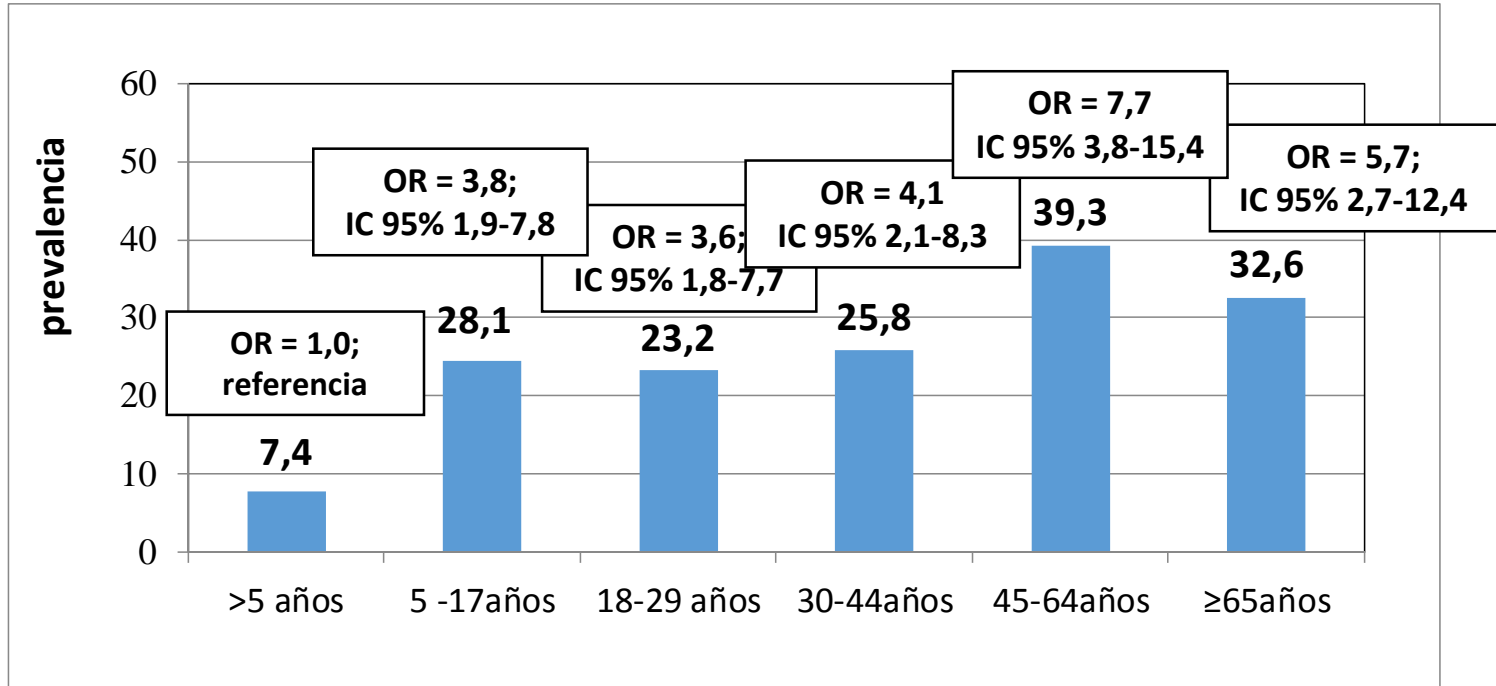
Resultados

Variables asociadas con riesgo de TB entre los contactos de casos de TB pulmonar (n = 4328)



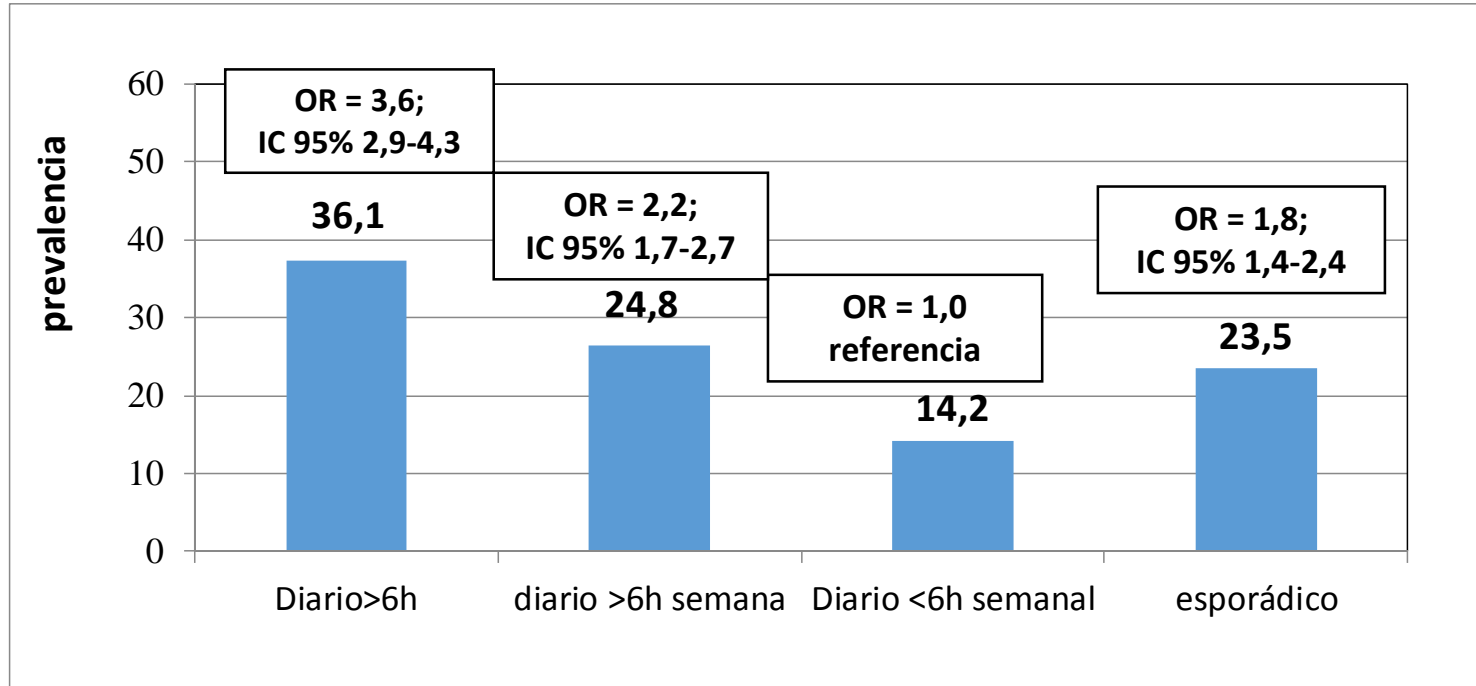
Results

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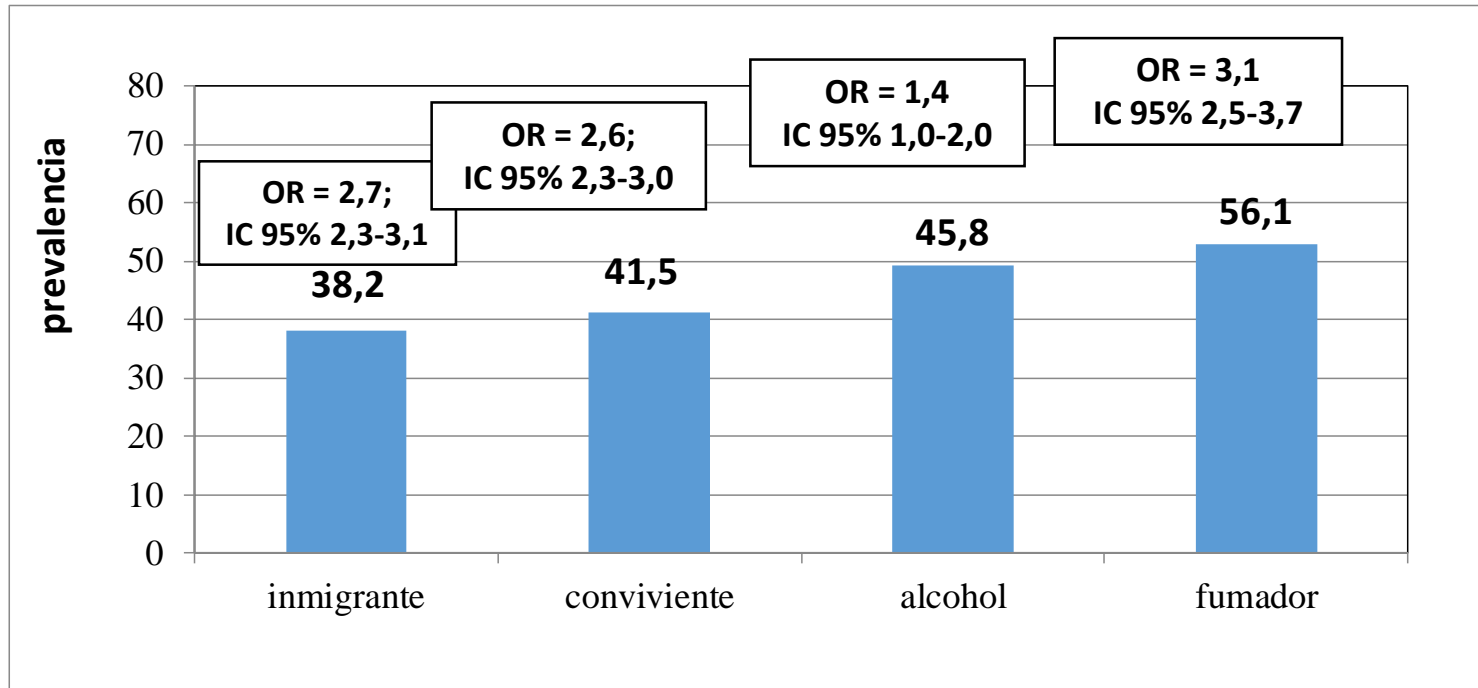
Results

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Results

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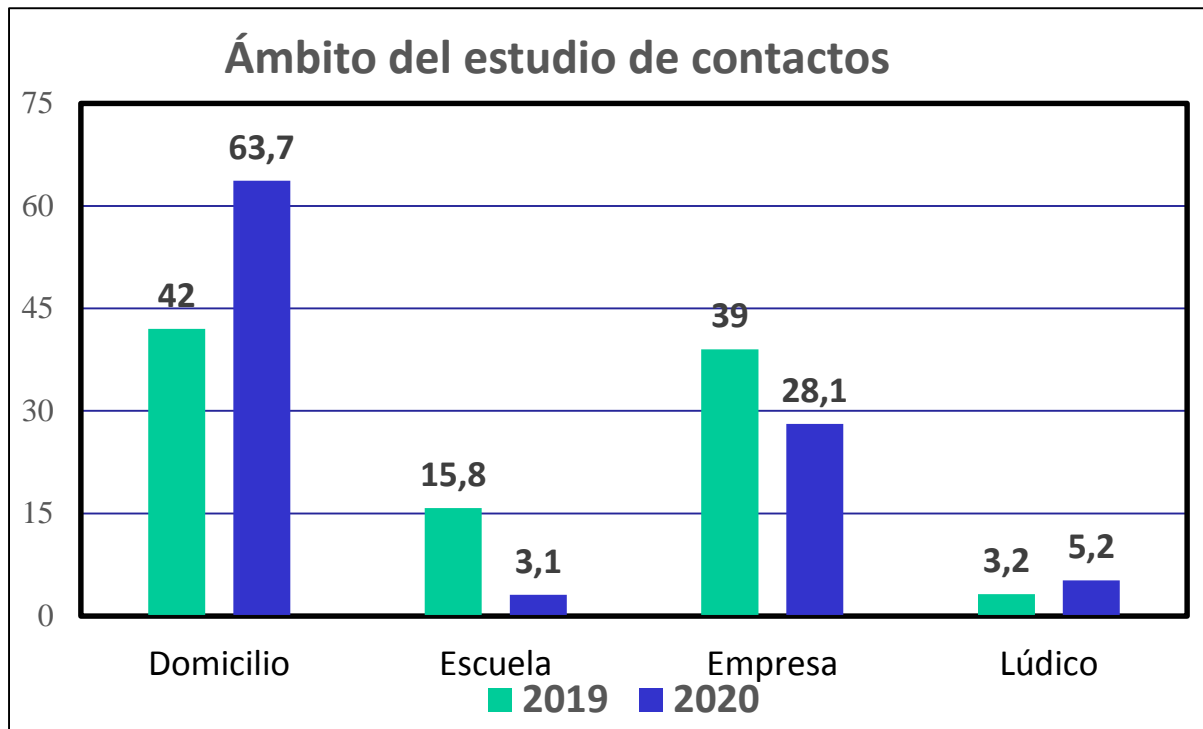


Resultados

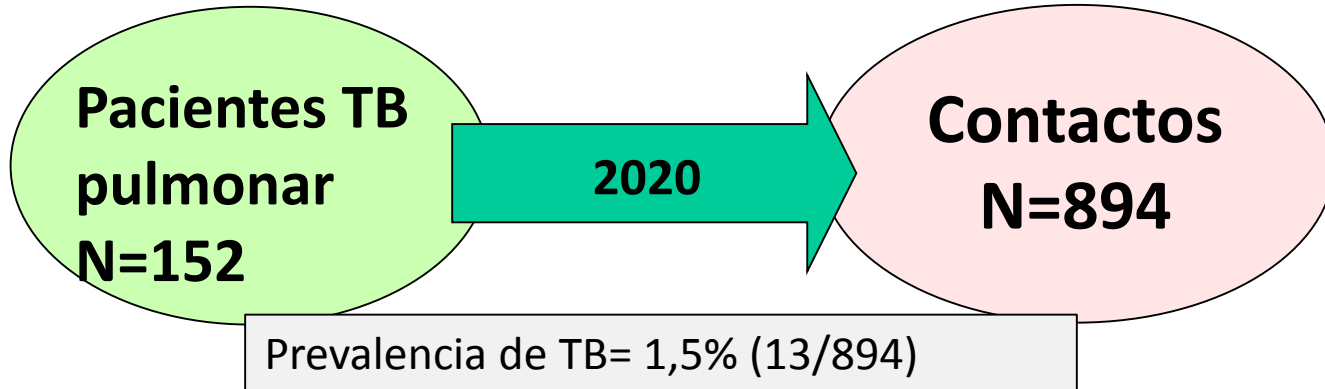
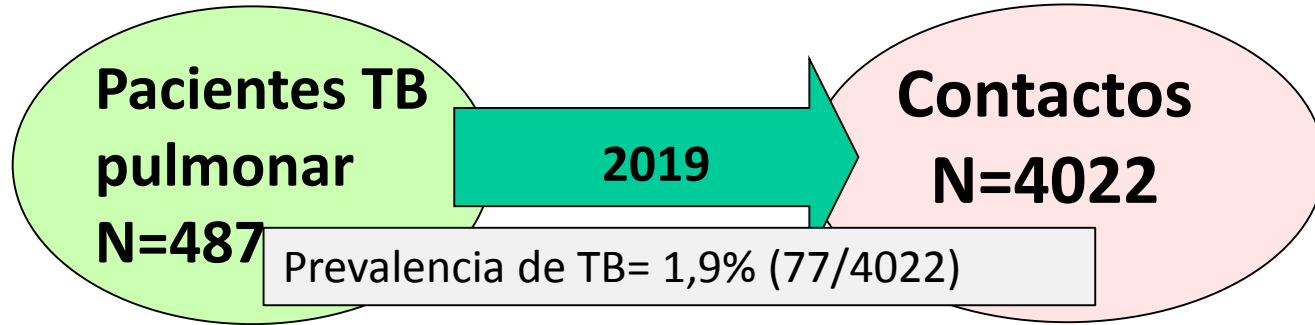
Estudios de contactos
realizados el 2019 y el 2020

Results

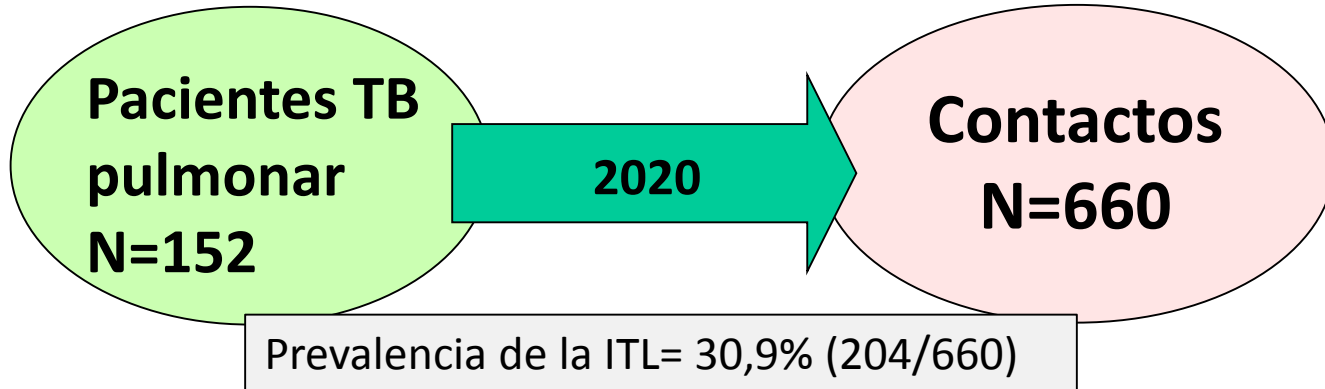
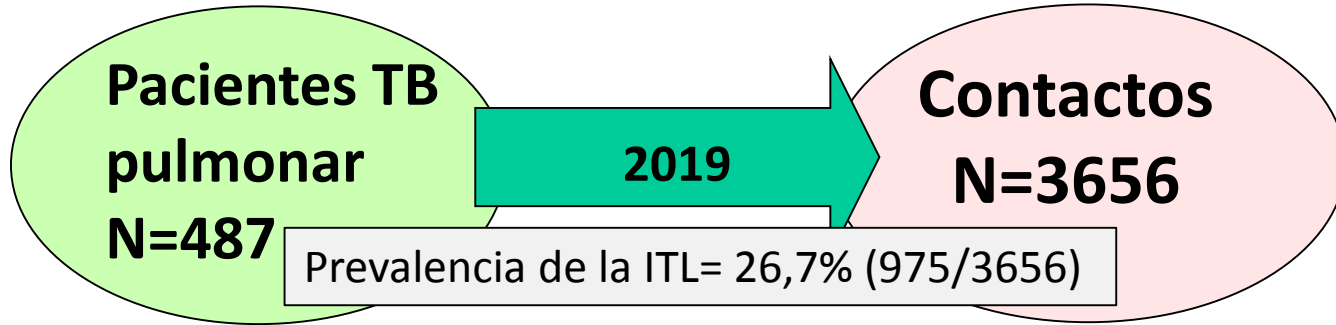
Ámbitos del estudio contactos de casos de TB pulmonar en Cataluña 2019-2020 (n = 4316)



Resultados

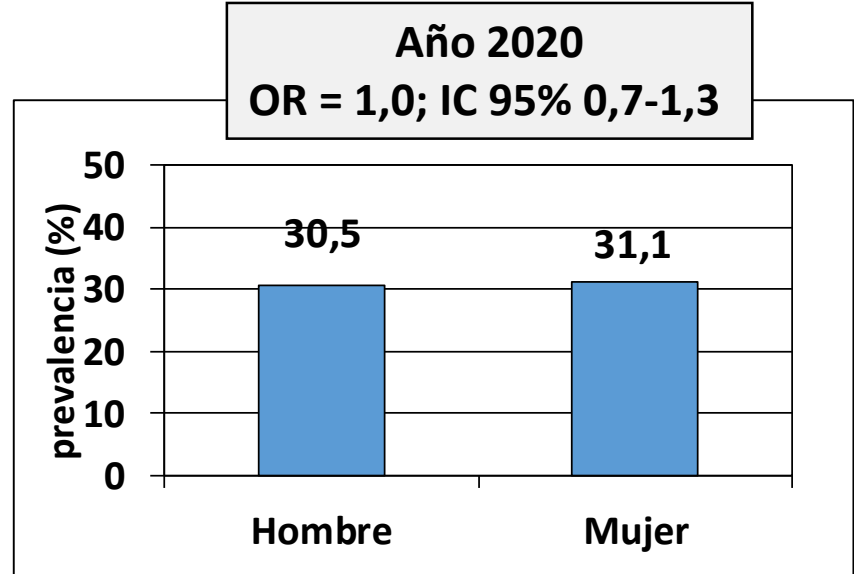
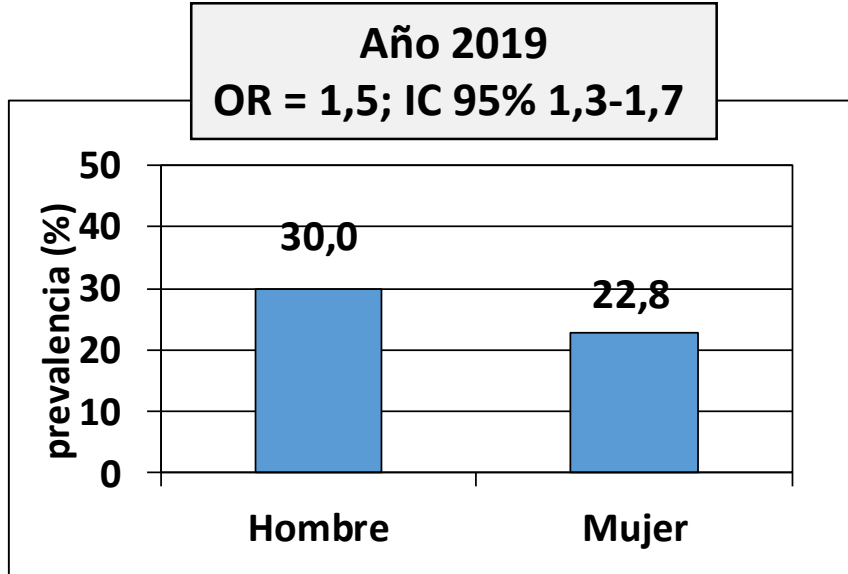


Resultados



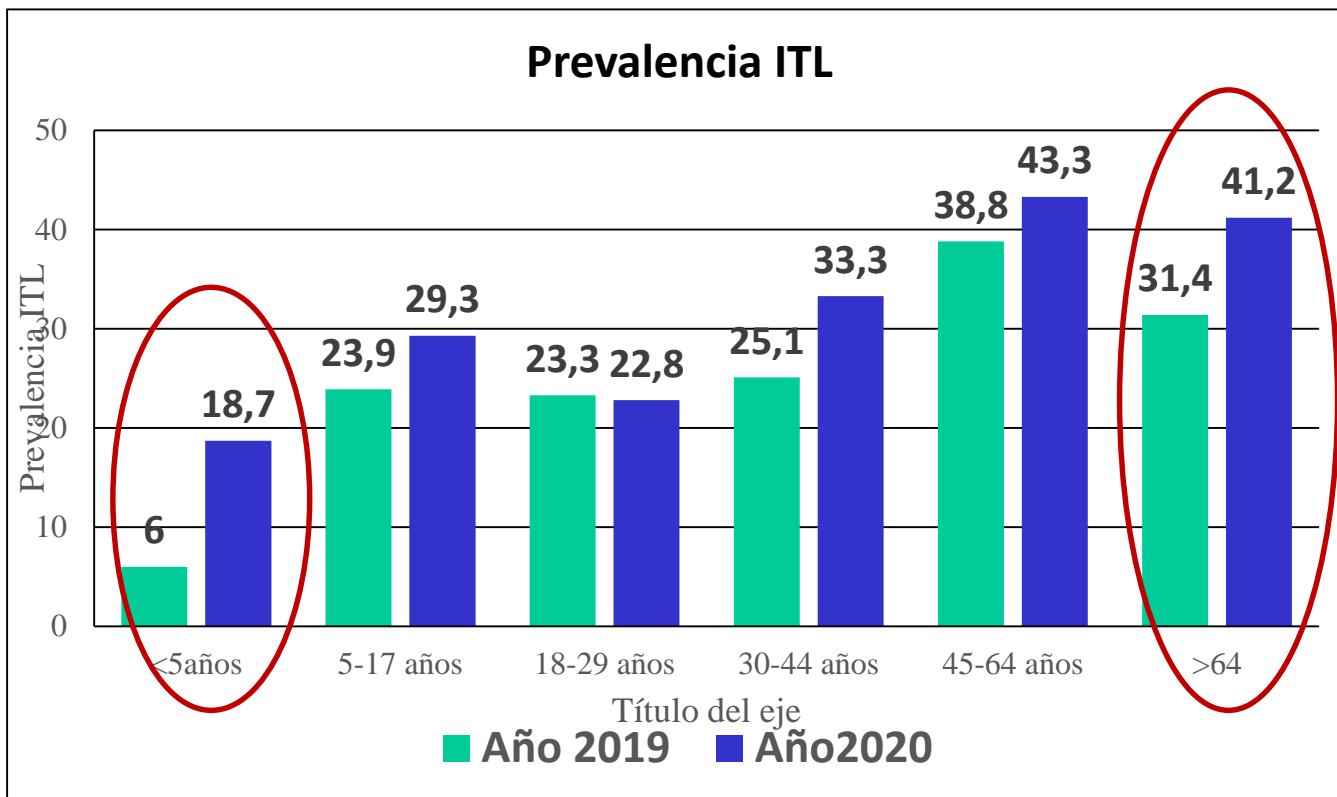
Resultados

Variables asociadas con riesgo de TB entre los contactos de casos de TB pulmonar (n = 4316)



Results

Variables asociadas con riesgo de TB entre los contactos de casos de TB pulmonar (n = 4316)



Conclusiones/1

- El estudio ha permitido censar a un número elevado de contactos (8,0 x caso) y detectar una alta prevalencia de ITL (27,4%).
- El riesgo de ITL se ha asociado al tiempo de exposición al caso índice y este riesgo se incrementó con el hábito tabáquico, el consumo de riesgo de alcohol y la presencia de diabetes.
- El estudio de contactos en los casos de tuberculosis pulmonar presenta un alto rendimiento para detectar ITL.

Conclusiones/2

- Se observó una reducción importante en el número de casos de TB pulmonar y el número de estudios de contactos durante el periodo pandémico COVID-19 del proyecto.
- En el periodo pandémico la mayoría de los estudios de contactos se realizaron a nivel familiar (63,7% *versus* 42%; $p < 0,05$).

Conclusiones/3

- Se registró un incremento importante de la prevalencia de la ITL en el periodo pandémico (30,9% *versus* 26,7%; $p < 0,05$).
- Se registró un incremento importante de la prevalencia de la ITL en el periodo pandémico en la mujeres (31,1% *versus* 22,8%; $p < 0,05$) y en los menores de 5 años (6,0% *versus* 18,7%; $p < 0,05$) .

Limitaciones

- Las prevalencias entre los contactos en el periodo pandémico pueden estar sobreestimadas por reducir los estudios aquellos casos con mayor riesgo de transmisión.
- Impacto de la limitación de recursos por la pandemia difícil de medir.
- Casos y estudios pendientes de registro en las bases de datos.

PERSPECTIVE

Parallels and Mutual Lessons in Tuberculosis and COVID-19 Transmission, Prevention, and Control

Philip C. Hopewell, Lee B. Reichman, Kenneth G. Castro

The coronavirus disease (COVID-19) pandemic has had unprecedented negative effects on global health and economies, drawing attention and resources from many other public health services. To minimize negative effects, the parallels, lessons, and resources from existing public health programs need to be identified and used. Often underappreciated synergies relating to COVID-19 are with tuberculosis (TB). COVID-19 and TB share commonalities in transmission and public health response: case finding, contact identification, and evaluation. Data supporting interventions for either disease are, understandably, vastly different, given the diseases' different histories. However, many of the evolving issues affecting these diseases are increasingly similar. As previously done for TB, all aspects of congregate investigations and preventive and therapeutic measures for COVID-19 must be prospectively studied for optimal evidence-based interventions. New attention garnered by the pandemic can ensure that knowledge and investment can benefit both COVID-19 response and traditional public health programs such as TB programs.

in high-burden settings, disease-related deaths over 5 years might be increased by up to 10% for HIV, 20% for TB, and 36% for malaria (1).

To minimize the adverse consequences of COVID-19 on overall public health services, synergies between COVID-19 response and traditional public health programs should be sought and the lessons and resources developed in any of the programs should be used for the benefit of the others. In this regard, approaches to TB control might hold lessons for the public health response to COVID-19 and vice-versa.

Synergies and Commonalities for COVID-19 and TB
Several commonalities exist between COVID-19 and TB, most notably transmission of their etiologic agents, severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and *Mycobacterium tuberculosis*. Both pathogens are transmitted through secretions from the respiratory tract (3–5). Moreover, protecting health-care workers and other susceptible patients and con-

Recomendaciones

- Reasignar los recursos destinados a la COVID-19 a la red de vigilancia epidemiológica.
- Recuperar las actividades de vigilancia y control de la tuberculosis (incluido el estudio de contactos) de forma urgente.
- Iniciar nuevas líneas de investigación para estudiar el impacto biomédico y social de la COVID-19 en la tuberculosis.



EDITORIAL
INFECTIOUS DISEASE

COVID-19, tuberculosis and poverty: preventing a perfect storm

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The global health community must learn from COVID-19 and take action now on tuberculosis and its social determinants, potentially saving millions from a preventable and curable disease: <https://bit.ly/2L1g1gA>

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Introduction

The coronavirus disease 2019 (COVID-19) pandemic is likely to be the defining global health crisis of our generation. As the United Nations Development Programme highlighted in their recent call to action, the impact of this pandemic will extend beyond the immediate medical consequences to have far-reaching and long-lasting social and economic impacts, threatening to disproportionately affect poorer people in poorer countries [1]. Income losses are anticipated to exceed USD 220 billion in developing countries, where many people live day-to-day without access to social protection, and food security is precarious [1]. Strikingly, a recent United Nations study suggested that the social and economic consequences of the COVID-19 pandemic could increase the number of people living in poverty by as much as half a billion, with the majority of these newly poor people living in Africa, South-East Asia, and Central and South America [2].

GRACIAS

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