



LATINO POLICY & ISSUES BRIEF

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SUCCESSFUL TUBERCULOSIS PREVENTION IN FOREIGN-BORN ADOLESCENTS

by

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Although the number of tuberculosis (TB) cases has been steadily decreasing in the U.S. general population, the spread of the disease has increased dramatically among foreign-born residents.¹ The proportion of foreign-born TB cases in the United States nearly doubled between 1990 and 1999, from 24% to 43% of all reported U.S. cases (see fig. 1). The causes of this increase are complex.

The rise of TB cases among foreign-born persons is partly due to the rise in immigrants to the United States,² especially those from Asian and Latin American countries where TB rates are up to twenty times greater than that of the United States.³ Of the foreign-born TB cases, 44% were Asian or Pacific islanders and 36% were Latino or Hispanics. Mexico alone accounted for 23% of all foreign-born TB cases.

The rise is also partly due to inadequate medical outreach to immigrants. As the Center for Disease Control (CDC) declared in 1998, "efforts to provide screening and preventive therapy for the foreign-born are limited."⁴ Linguistic and cultural barriers often make outreach to immigrant communities difficult.

Patients' failure to follow through on treatment is another important barrier to eliminating TB both internationally and in the United States. This failure results not only in an increase of new TB cases⁵ and the emergence of drug-resistant strains,⁶ but also in higher overall treatment costs. The increase in TB cases among

foreign-born patients suggests that they face particular challenges in completing care.

Therefore, in order to effectively control TB in the United States, we must develop and deliver to foreign-born persons tailored intervention programs that cross cultural barriers and encourage patients to complete care. Although only individuals with active TB are infectious, 1 in 10 persons with latent tuberculosis infection (LTBI) may develop the disease if they are not treated.⁷ The CDC estimates that 7 million foreign-born persons are infected with TB and that 140,000 to 210,000 will develop the disease unless they complete preventive therapy.

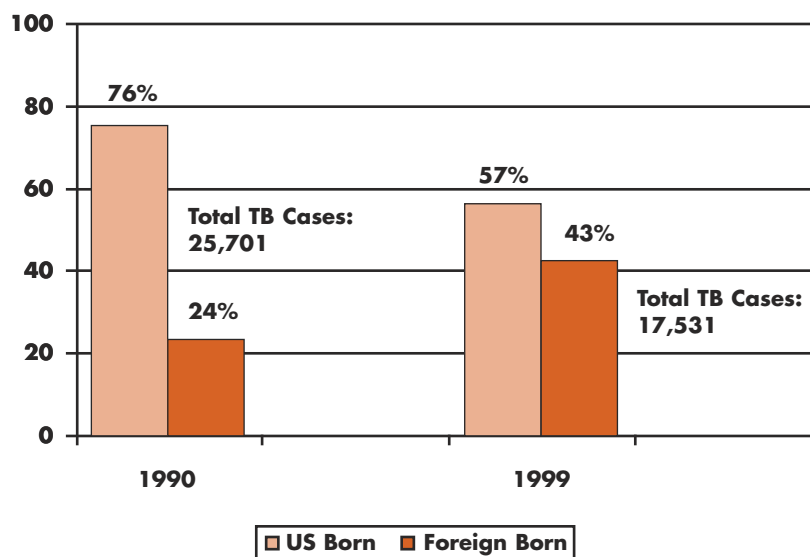


Fig. 1. Percent of TB Cases in the United States by Immigration Status

This brief reports on research on a foreign-born population with high completion rates, adolescents with LTBI, and identifies those factors that correlate with completing preventative care. It also discusses strategies for increasing their compliance with medical treatment. Ironically, the more “Americanized” foreign-born adolescents become, the less likely they are to exhibit health-promoting behavior. Foreign-born adolescents, then, may hold a key to TB prevention for native-born Americans as well.

STUDY POPULATION AND METHODS

A total of 766 low-income adolescents between the ages of 11 and 19, including 610 foreign-born adolescents, were recruited from two public health clinics in Los Angeles County. In face-to-face interviews, information was collected on their socio-demographic and lifestyle characteristics, psycho-social factors, and clinic-related variables. Medical charts were used to identify if the adolescents kept clinical appointments and completed treatment. Univariate and multivariate logistic regression analyses were performed to identify factors associated with completion of care.

FINDINGS

We found that foreign-born adolescents were more likely to complete TB care than non-foreign born adolescents (82% compared to 69%). Foreign-born adolescent participants had higher medication-taking behavior scores and were better about keeping their appointments than US-born participants (see fig. 2). At the same time, however, this population faces the highest risk for LTBI, suggesting the need for even higher completion rates. In the 1990s, foreign-born TB cases nearly doubled as a proportion of all cases. Even more significant, the number of foreign-born TB cases increased 22 percent while the number

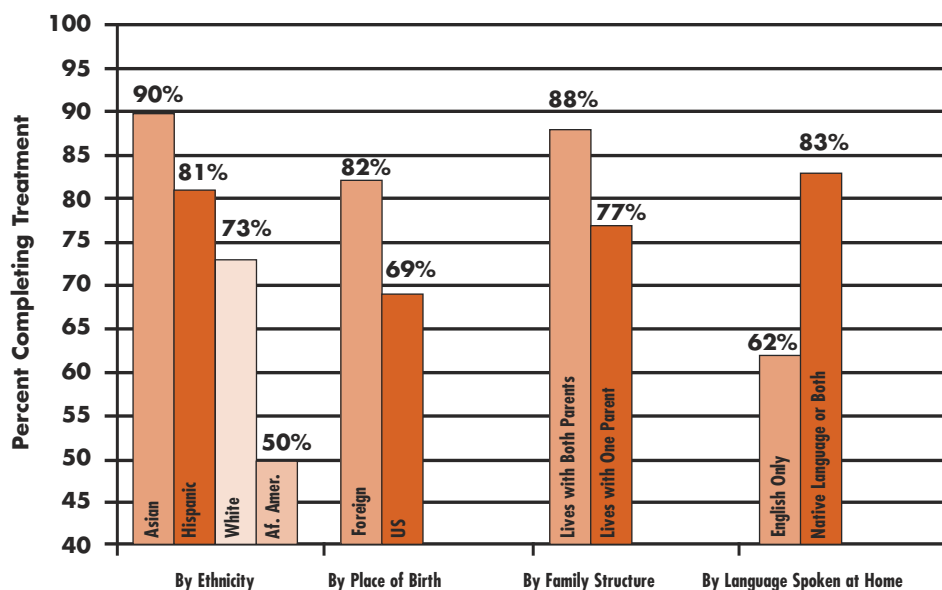


Fig. 2. Proportion of Adolescents in the Study Who Completed Treatment of TB Care by Socio-Demographic and Psycho-Social Factors

of TB cases over all decreased 32 percent. Therefore, it is important to understand this higher completion rate in order to develop appropriate and effective preventative measures for those sections of the foreign-born population that are at increasing risk. This cohort may also offer some insights into the lower completion rates for native-born adolescents. Below we identify six critical factors affecting completion of care.

Ethnicity. The highest completion rate was found among Asians (90%), whereas African Americans had the lowest rate (50%). Hispanics and white/others had completion rates of 81.7% and 72.7% respectively (see fig. 2).

Age. Older participants were less likely to complete care.

Family Structure. Foreign-born adolescents from two-parent households were more likely to complete care than those from single-parent families. This finding is similar to previous studies that reported a link between adolescent risk-taking behavior and the single-parent family structure.⁸

Acculturation Levels. Americanized foreign-born adolescents were less likely to complete care. Speaking English with parents, a proxy for acculturation, was associated with non-completion of care. This result confirms previous findings that among Latino adolescents, higher levels of acculturation are associated with an increased likelihood of exhibiting problem behaviors and a decreased likelihood of exhibiting certain health-promoting behaviors.⁹

Health Education. Foreign-born adolescents who understood the purpose of their medical treatment were more likely to complete it. Patients who did not understand that the medication was intended to prevent illness had lower completion rates.

Health Care Environment. Patients' experience at the clinic also impacted their rates of completion of care. The responsiveness of health care providers was an important factor. Patients who had to wait an additional 30 minutes to see a nurse were 20% less likely to complete care.

DISCUSSION

We found that younger Latino or Asian adolescents from nonacculturated, two-parent families who were given an opportunity to understand their treatment in a caring environment were more likely to complete their care and decrease their risk of TB. In fact, even though these adolescents were at the highest risk, their completion rates were higher than all other groups, including native-born adolescents.

The culture of the foreign born has been cited as a potential barrier to patient adherence. Interestingly, it may have actually *enhanced* completion of care in our study population. Foreign-born persons, who often originate from countries with high rates of TB, might be more aware of the gravity of TB. They are likely to have known someone who has had TB or died from TB, which increases their perceived susceptibility. In addition, immigrant populations may have a higher respect for various forms of authority, including physicians' orders, than non-foreign born persons. Younger persons may also benefit from a familiarity with following orders.

These findings suggest that culture, ethnicity, and youth should not be looked upon as impediments but as potential resources. At the same time, the findings clearly show that family structure and the health care environment can pose certain impediments to health-promoting behavior.

RECOMMENDATIONS

These findings provide supportive evidence that tailored intervention programs should be developed to support the screening of and completion of treatment by foreign-born persons.

- 1). Schools should continue screening children for TB. The majority of LTBI cases were detected due to a school attendance requirement.
- 2). Screening of all immigrants should be conducted both abroad and after their arrival to the United States. Early detection of foreign-born TB cases is particularly important as the risk of TB disease appears to be highest during the first year after arrival. Additionally, foreign-born persons who arrived in the United States after their fifth birthday have much higher rates of TB than those who arrived before their fifth birthday.
- 3). Tailored intervention programs should be designed to reach foreign-born communities who are most at-risk for non-completion of care, particularly adolescents from single parent families, those with higher levels of acculturation, and those who are older.
- 4). Intervention programs should emphasize educating foreign-born persons on the necessity of preventative treatment, as a lack of understanding often leads to non-completion of care.
- 5). Given the high completion rate among foreign-born adolescents, additional research is needed to understand the factors that contribute to completion and that might be of potential use for treating other foreign-born patients as well as native-born patients.

NOTES

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Since 1990, foreign-born TB cases have increased 22% even as total TB cases have decreased 32%. Latino and Asian populations are especially at risk. But these cultures often hold the key to effective preventative measures.

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