

“Understanding disparities in MDR-TB prevalence between Baja California and Hispanics in California”

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Background

- ❑ MDR-TB is a challenge for TB control. In 2008, MDR-TB caused $\approx 150,000$ deaths worldwide (WHO, 2010)
- ❑ TB is more prevalent in CA as compared with US (7.0 vs 4.2 per 100,000). TB is more prevalent in BC as compared with MX (40.5 vs 14.1 per 100,000) (CDC, SSA, 2008 data)
- ❑ MDR-TB in CA: 1.2% (CDPH, 2006). MDR-TB in BC: ???
- ❑ In 2008-2009, pulmonary TB patients in BC had DST, as part of a national survey (ENTB)

Background

- ❑ California and BC share an intense migratory dynamic: a single population extends over both sides of the border
- ❑ Contact between individuals in this population is not random: social networks
- ❑ TB and MDR-TB are transmitted through social networks
- ❑ A single population, different public health services

Objective

- ❑ Explore the prevalence and risk factors of MDR in TB patients in BC, and TB Hispanic patients in California
 - ❑ Compare prevalence of MDR between:
 - ❑ Mexicans living in BC
 - ❑ Mexico-born Hispanics living in California
 - ❑ US-born Hispanics in California
 - ❑ California Hispanics born elsewhere
- ❑ Explore the association of previous antituberculosis treatment and MDR-TB in these four groups

Hypothesis

- Prevalence of MDR-TB will be higher in BC, when compared with the three CA groups
- Previous treatment will be more frequent in BC
- Prevalence of MDR-TB will be the same in the four groups, after adjusting by previous treatment

Methods

- *Data Sources*: ENTB, California TB Registry (CDPH)
- *DST*: INDRE (BC), local public health labs (CA)
- *Analysis*: unadjusted and adjusted (previous tx, gender, age) OR of MDR-TB comparing between the four groups

Characteristics of Baja California and California Hispanic Tuberculosis cases*

	Baja California	Mexico-born CA	US-born CA	Elsewhere-born CA
TB Cases	633	1878	549	525
Cases with DST (%)	521 (82.3%)	1864 (99.3%)	543 (98.9%)	524 (99.8%)
Median age (IQR)	33 (25,45)	43 (30,58)	28 (19,51)	37 (27,55)
Female	23.4%	29.8%	42.1%	41.9%
Previous tx	17.0%	4.7%	3.7%	4.6%
Pansensitive	437/521 (83.9%)	852/1118 (76.2%)	228/276 (82.6%)	327/397(82.4%)
MDR	11/521(2.1%)	30/1861(1.6%)	2/543(0.4%)	14/524(2.7%)
Resistant to H	36/521 (6.9%)	166/1863 (8.9%)	25/543 (4.6%)	51/524 (9.7%)
Resistant to R	12/521 (2.3%)	33/1862 (1.8%)	5/543(0.9%)	15/524 (2.9%)

*Preliminary analysis. Sources: National Survey of TB Drug Resistance, México. California TB Registry

Associations with Multi Drug Resistance (MDR) for Baja California and California Hispanic Tuberculosis cases*

	Univariate		Multivariate**	
	OR	CI _{95%}	OR	CI _{95%}
Variable				
Age (yrs)	0.99	0.98,1.01	0.98	0.97,1.00
Gender				
Male	1		1	
Female	1.05	0.60,1.83	0.90	0.48,1.65
Previous treatment	5.75	3.01,10.98	6.57	3.34,12.96
Group:				
US-born CA	1		1	
BC	5.83	1.29, 26.45	2.82	0.55,14.48
Mexico-born CA	4.43	1.06,18.60	5.08	1.19,21.75
Elsewhere born CA	7.43	1.68,32.83	7.69	1.71,34.67

*Preliminary analysis. Sources: National Survey of TB Drug Resistance, México. California TB Registry.

**Adjusted by all other variables in the model

Conclusions/ recommendations

- ❑ MDR-TB prevalence was highest in non-US born:
 - ❑ Exposure to resistant strains?
 - ❑ Previous treatment by less-resourced TB programs?
 - ❑ Under-reporting of previous treatment?

- ❑ Previous treatment more frequent in BC: intensify TB strategies

- ❑ More research needed:
 - ❑ Causes of the causes
 - ❑ Transmission of TB (and MDR-TB) through networks
 - ❑ Prevention strategies targeted to migrant population (international and internal)

Limitations

- Few variables comparable between data sets: limited analysis
- “Hispanic”, “US-born” imperfect indicators
- Under-reporting of previous treatment among non-US born cases?



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