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Title:

Uptake and equity of tuberculosis preventive therapy was increased by a socio-economic intervention

**Background**: Few tuberculosis (TB) control resources are spent on socio-economic interventions, mostly due to lack of evidence. To address this evidence gap we did a randomized controlled study of the Innovative Socio-economic Interventions Against Tuberculosis (ISIAT) project’s impact on INH preventive therapy utilization (IPT).

**Methods & Materials**: Six months IPT is recommended in Peru for child contacts of TB patients and provided for free by the government.  TB program staff record and dispense INH weekly for TB patients to take home and administer.  ISIAT (previously described; C. Rocha 2011) was implemented in this setting from 2007 to mid-2010 and consisted of integrated social and economic support offered to households of newly diagnosed TB patients.  The project expanded in a random stepwise manner to include 8 of 16 contiguous shantytown study communities in Lima, Peru.  In mid-2011 we assessed the impact of ISIAT on an intention-to-treat basis, comparing records of IPT dispensed between ISIAT intervened households and control households.

To assess equity of access to IPT we analyzed crowding (>median occupancy, 7 people) and lower income (<median self reported income, US$1.40/person/day; IQR 0.84, 2.34) as poverty proxies.

**Results**: **Impact**: Health records showed that in 484 ISIAT households, 69% (95%CI: 65% to 74%) of children initiated and 41% (95%CI: 36% to 45%) of children completed IPT compared to 48% (95%CI: 45% to 50%) and 22% (95%CI: 20% to 24%) respectively in the control group.  The differences between ISIAT and control groups were highly significant (P<0.0001).

**Equity**.  Control children living in poorer households were less likely to complete IPT (all P<0.05\*, Figure A). In ISIAT houses children living in poorer households had similar or slightly higher IPT completion rates than children living in households that were less poor (all P>0.6, Figure B).

**Conclusion:** Our study demonstrated that IPT was least likely to be accessed by families with the most need and that ISIAT almost doubled rates of IPT completion.  Additionally, with ISIAT the families with the most need were as or more likely to complete IPT than families that were better off. Thus, ISIAT increased uptake and equity of IPT in impoverished households.

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