

Impact of 3HP on Latent Tuberculosis Infection (LTBI) Treatment Completion Rate in a Large, Urban City

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Background

- Tuberculosis (TB) is an infectious disease causing morbidity and mortality in the United States.²
- A key TB elimination strategy is to treat latent TB infection (LTBI) in contacts of TB cases and other high-risk groups.² In Houston, Texas, high-risk groups include the:
 - Foreign-born
 - Homeless
 - Immunocompromised
- Traditional LTBI treatments are:³
 - 9 months of once daily Isoniazid (INH)
 - 9 months of twice weekly Isoniazid (INH)
 - 4 months of once daily Rifampin (RIF)
- A 12-week regimen of once weekly Isoniazid and Rifapentine (3HP) is an LTBI treatment alternative recently approved by the US Food and Drug Administration.¹
- The ability of a shorter regimen to improve LTBI completion rates in a large diverse city like Houston has not been evaluated.

Our goal was to examine if instituting the 3HP regimen would improve LTBI treatment completion percentages.

Objectives

- Start eighty (80) eligible patients on 3HP.
- Improve the LTBI completion rate by 5% over the year prior through the introduction of 3HP.

Methods

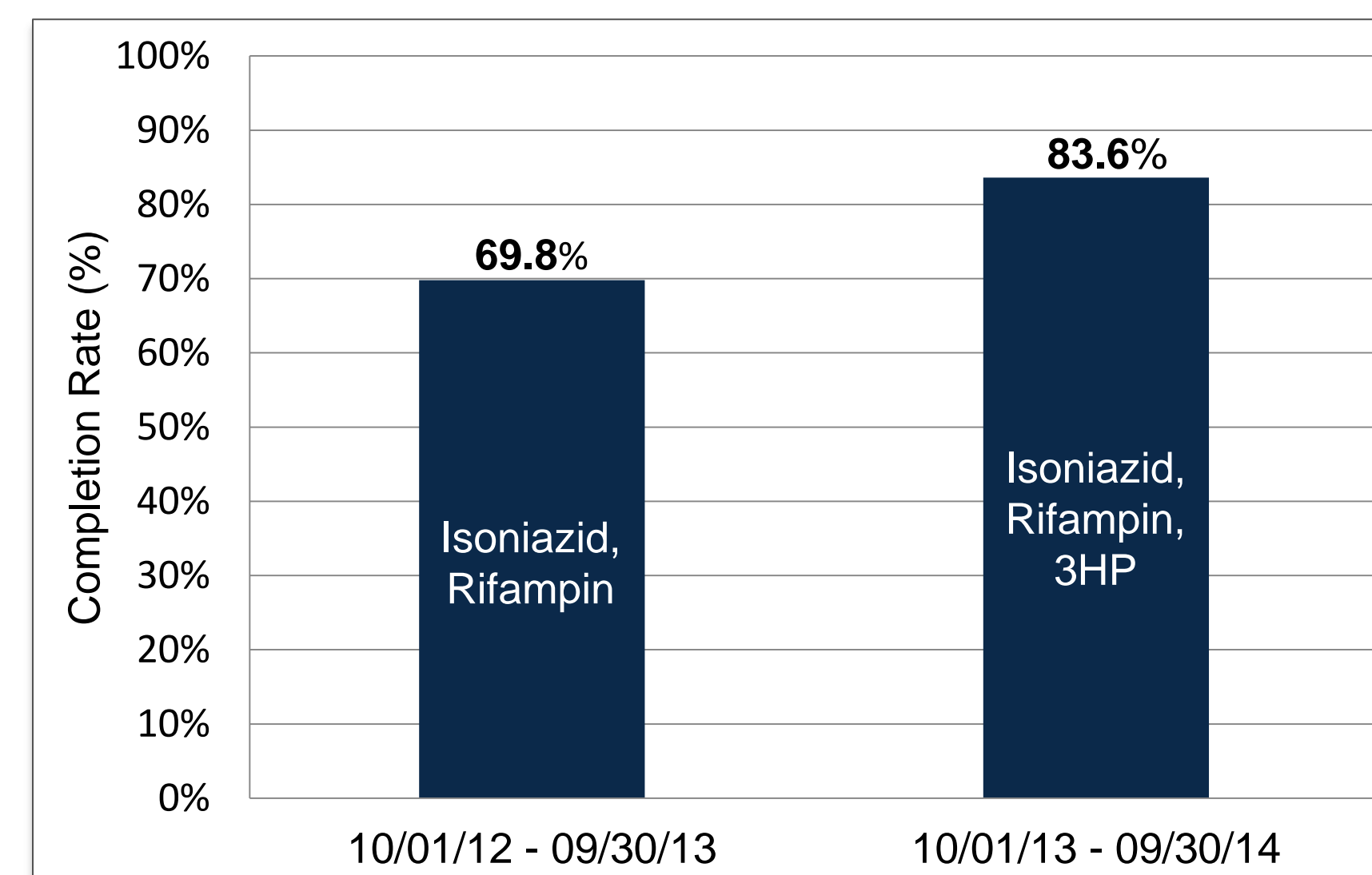
- This study was conducted from October 1, 2013 – September 30, 2014.
- LTBI populations (N= 347) were identified:
 - 130 patients started 3HP treatment
 - 217 patients started traditional LTBI therapies (INH or RIF)
- Inclusion criteria for 3HP included otherwise healthy foreign-born and/or congregate setting contacts diagnosed with LTBI.
- All other LTBI patients were placed on traditional therapies (INH or RIF).
- LTBI completion rates from the project period were compared with that of the year prior (October 1, 2012 – September 30, 2013) to determine any benefit of the introduction of 3HP.

Table 1: CDC-Recommended LTBI Treatment Regimens

Drug	Frequency	Duration	Issues
Isoniazid (INH)	Daily or Twice Weekly	9 months (6 months)	<ul style="list-style-type: none"> • Traditional regimen • Long duration • Poor adherence
Rifampin (RIF)	Daily	4 months	<ul style="list-style-type: none"> • Traditional regimen • Drug interactions
Isoniazid + Rifapentine (3HP)	Once weekly	3 months	<ul style="list-style-type: none"> • New regimen • Drug interactions • DOT

Results

Figure 1: Comparison of Overall LTBI Completion Rates Before and After the Addition of the 3HP Regimen



The combined LTBI completion rate (INH, RIF, and 3HP) was **83.6%** (290/347) during the project period.

- **3HP:** Of the 130 who started, 121 completed therapy (**93.1%**)
- **INH/RIF:** Of the 217 who started traditional LTBI therapies, 169 completed (**77.8%**)
- The LTBI treatment completion rate for the year prior was **69.8%**.
- With the introduction of 3HP, the LTBI treatment completion rate was 83.6%, an increase of 13.8%.

Conclusion

- The introduction of the 3HP regimen improved the overall LTBI completion rate in the target population.
- As 3HP use increases, the overall LTBI completion rate should continue to improve, potentially reducing future TB morbidity and mortality.
- It is recommended that 3HP use be explored in other TB programs.

References

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